DOCUMENT RESUME

ED 141 754 CS 003 479

AUTHOR Grant, Patricia

TITLE The Cloze Procedure for Improving Sixth Grade Students' Reading Comprehension and Understanding of Social Studies Materials.

PUB DATE Dec 76

NOTE 156p.; M.A. Thesis, Rutgers University, The State University of New Jersey

EDRS PRICE MF-$0.83 HC-$8.69 Plus Postage.

DESCRIPTORS *Cloze Procedure; Content Reading; Elementary Education; Grade 6; Intermediate Grades; Masters Theses; *Reading Comprehension; *Reading Improvement; *Reading Research; *Recall (Psychological); *Social Studies Units; *Student Motivation

ABSTRACT

This study attempted to determine whether systematic inclusion of cloze exercises in a sixth grade social studies unit would influence students' reading growth, long term recall, and interest in the material. During the nine-week study, 21 students in the experimental group and 21 students in the control group read the same materials; after each assigned chapter, the experimental group completed cloze exercises, while the control group answered questions about the chapter. Analysis of results obtained on a standardized reading test, on the experimenter-constructed cloze tests, and on the social studies unit test written by the authors of the social studies text indicated that there were no significant differences in gains made by the experimental and control groups in vocabulary achievement and silent reading achievement but that the experimental group did recall the material significantly better than did the control group. Observations of student behavior indicated that students were very enthusiastic about certain of the cloze exercises, although a constant diet of cloze exercises resulted in boredom and disinterest. Students in the experimental group were observed to read the text more closely than the other students and to use grammar and logic cues in completing the cloze exercises. (Author/GW)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED141754

THE CLOZE PROCEDURE FOR IMPROVING SIXTH GRADE STUDENTS' READING COMPREHENSION AND UNDERSTANDING OF SOCIAL STUDIES MATERIALS

A MASTER'S EQUIVALENCY THESIS
SUBMITTED TO THE FACULTY
OF THE GRADUATE SCHOOL OF EDUCATION
OF
RUTGERS UNIVERSITY
THE STATE UNIVERSITY OF NEW JERSEY
BY
PATRICIA GRANT
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
OF
DOCTOR OF EDUCATION

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL HAS BEEN GRANTED BY
Patricia Grant
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

NEW BRUNSWICK, NEW JERSEY　　　　DECEMBER 1976

APPROVED:
Joseph Zelnick
George J. Pallrand
James Swalm

CS 003 479

ACKNOWLEDGMENTS

Special and sincere thanks to two professional people who are most responsible for the fruition of this project go to Dr. Joseph Zelnick and Mrs. Aldona Skrypa. Dr. Zelnick has spent hours, both trying and tiring, in criticizing and developing this project. Mrs. Skrypa did literally a superb job as a cooperating teacher who appreciated the importance and necessity of following procedural guidelines for this study and whose input in solving any existing problems was both creative and intelligent. Finally, my deepest thanks go to my husband, Bob, and my daughter, Shawna, who have survived with late dinners, cold dinners and no dinners, among other things, in sacrificing their own needs for me to finish this experimental project.

TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS ii

LIST OF TABLES v

Chapter

I. INTRODUCTION 1

The Problem 4
The Hypotheses 4
Importance of the Study 5
Definition of Terms 5
Limitations of the Study 6
Overview of Study 7

II. REVIEW OF THE LITERATURE 9

Conceptualization and Initiation of the Cloze Procedure 9
Theoretical Aspects of the Cloze Procedure 11
The Cloze Procedure as a Teaching Device 12
Cloze in the Classroom 29

III. EXPERIMENTAL DESIGN, METHODS, AND PROCEDURE 34

Description of Subjects 34
Pilot Study 35
Cloze Exercise Construction 36
Selection of Tests 38
Description of Test Materials and Scores 41
Administration of Tests and Procedures Followed 43
Experimental Group 46
Control Group 48
Statistical Design and Treatment of Data 50
Summary 51

TABLE OF CONTENTS (Continued)

Chapter Page

IV. RESULTS AND DISCUSSION 53

Results 54
Discussion 61

V. SUMMARY AND CONCLUSIONS 69

Summary 69
Conclusions and Recommendations 72

REFERENCES 77

APPENDIX A - SUPPLEMENTARY TABLES 81

APPENDIX B - STANDARDIZED READING TESTS
GATES-MacGINITIE READING TEST, D, FORMS 2 AND 3 86

APPENDIX C - INFORMAL TESTS 103

APPENDIX D - CLOZE TRAINING EXERCISES: EXAMPLES FROM UNIT IV "EUROPE IN THE MIDDLE AGES" 114

APPENDIX E - PUPIL SCORES ON CLOZE TRAINING EXERCISES 146

LIST OF TABLES

Table		Page
1.	Comparison Between the Experimental and the Control Groups on the Lorge-Thorndike Cognitive Abilities Test	42
2.	Comparison Between the Experimental and the Control Groups on the Pretest of the Gates-MacGinitie Reading Test, D, Forms 2 and 3	44
3.	A Comparison Between Experimental and Control Groups on the Cloze Pretests	45
4.	Comparison Between Experimental and Control Groups on the Gates-MacGinitie Reading Test in Raw Score Points	55
5.	Comparison of Experimental and Control Groups' Pre- and Posttests in Raw Score Points on 51 Item Cloze Tests (Mechanical Deletion)	57
6.	Comparison Between Experimental and Control Groups in Raw Score Points on 51 Item Cloze Tests (Mechanical Deletion)	59
7.	Comparison Between Experimental and Control Groups on Recall Test of Social Studies Unit	62

CHAPTER I

INTRODUCTION

John Carroll (1966) in his analysis of reading behavior noted that there were two components involved in the act of reading. The first involved "the construction or reconstruction of a spoken message or of some internal representation of it," i.e. word recognition (p. 53). The second aspect required of the reader comprehension of messages so constructed. Regarding comprehension, Carroll noted that it was a process little understood and "difficult to describe briefly" (p. 53).

Logically enough, with this description of reading behavior, little is said by Carroll about specific reading comprehension skills. In fact, Simons in reviewing several approaches to the understanding of reading comprehension concluded that not much progress has been made regarding the understanding of reading comprehension, since Thorndike's statement made in 1917 that:

> reading is a very elaborate procedure, involving the weighing of many elements in a sentence, their organization in the proper relations one to another, the selection of certain of their connotations and the rejection of others, and

> the cooperation of many forces to determine a final response. (Harris & Sipay, 1975, p. 471)

Thorndike's description of reading comprehension, while seminal in its time, offers few specifics with regard to analyzing component skills necessary for good reading comprehension and even fewer suggestions on how to teach reading comprehension skills.

Holmes (1970) remedies this situation, somewhat, with his substrata-factor theory. Fundamentally, this theory seeks to break down the reading process into specific subskills. Among the subskills included by Holmes were word sense, intelligence, spelling, and vocabulary in context, to mention a few. One of the subskills which Holmes postulated as accounting for a high percentage of reading ability was called word sense. In fact, Holmes' research showed that word sense was so important that it accounted for twenty-five percent of reading variance. In further breaking down the word sense ability, Holmes found that vocabulary-in-context was a major component of word sense. Indeed, utilizing context has emerged as a major reading comprehension skill (Heilman, 1972).

Even as early as 1908 Huey remarked on the importance of context when he described the "forward push characterized by feelings of expectance, curiosity and strain when a person was shown a word in context rather than singly" (p. 155). Later Artley (1943) wrote that it was imperative that children not only be aware of context clues but that they be able to utilize them automatically in all their reading. For, according to Artley, it was only by using context fully and automatically that the reader might come to full understanding and interpretation of the printed matter. This statement suggests the need for instruction in the use of context skills. According to McCullough (1958), this instruction on the "awareness and use of contextual aids would be best effected by direct teaching and continuous attention" (p. 299).

One way of focusing attention on context is to use the cloze procedure. Taylor (1953) published the landmark work which first proposed employing the cloze procedure in education. Utilizing Miller's work in communication theory, Osgood's dispositional mechanism, and statistical principles of random sampling, Taylor proposed that the cloze procedure might be effectively used to get at the readability of given materials Taylor derived the term, cloze, from the Gestalt concept of closure which is a tendency to fill in the missing parts in a thought structure.

From Taylor's start in 1953, many other educators have come forward to propose various appropriate ideas for creatively and constructively employing the cloze procedure. One such idea suggested using the cloze procedure as an instructional device to teach the student to use context clues. However, the research done on this idea has been somewhat ambiguous. First, there is little data available on using the cloze procedure as a teaching technique, and, second, what does exist is conflicting. Furthermore, existing research on the problem is plagued with research design weaknesses, thereby contributing to the conflicting results of the data. Thus, this cloze research will be useful in contributing to further knowledge on using the cloze procedure as an instructional device.

The Problem

The following questions (problems) were considered to be basic to this study:

1. Would systematic training with the cloze procedure in content area reading passages result in improved reading comprehension?

2. Would the use of the cloze procedure as an instructional device in the teaching of sixth grade social studies result in improved recall of social studies material?

The Hypotheses

In relation to the foregoing questions the following hypotheses were investigated:

1. There would be no significant differences

in reading comprehension as measured by the Gates-MacGinitie Reading Test.

2. There would be no significant differences between the experimental group's and the control group's reading comprehension as measured by the cloze tests constructed by the investigator.

3. There would be no significant difference between the experimental group's recall of the social studies unit and the control group's recall as measured by the informal author test.

Importance of the Study

The cloze procedure has been widely praised as an instructional device; however, there is little research to verify this claim. Therefore, this study will add to the scant research.

Definition of Terms

Cloze Procedure was defined as a method of systematically deleting words from a prose selection and then evaluating the success a reader had in accurately supplying the deleted words, based on his understanding of the context. There was a selective deletion pattern in which groups of ten words were counted off and then one word was selected for deletion.

Reading Comprehension was considered to include:

1. Students' scores on the pre- and post-administrations of the Gates-MacGinitie Reading Test, D, Forms 2 and 3.

2. Students' scores on cloze tests constructed by the experimenter.

Cloze Tests for measurement of reading improvement were made by using an every 5th word mechanical deletion pattern on two 275 word passages from the social studies text.

Reading Improvement was ascertained by comparing the differences between the experimental and control groups on the *Gates-MacGinitie Reading Test, D, Forms 2 and 3* and the cloze tests constructed by the experimenter.

Recall was defined as the ability to remember material after a period of time and was measured by performance on the social studies unit test given at the end of the unit.

Social Studies materials comprised selections from *Our Beginnings in the Old World*, Unit IV, published by Laidlaw Brothers and *Medieval Civilization*, Chapters 1 and 2, published by Allyn and Bacon, Inc.

Understanding of Social Studies Unit comprised students' scores on the informal author tests over Unit IV from *Our Beginnings in the Old World*.

Limitations of the Study

The population used for this study was 42 sixth graders from a school characterized by working class people; therefore, the results of this study cannot be generalized to other schools or school districts. Rather, the inferences to be drawn from the study are limited to this specific population. Also, since the entire population was sixth graders, the results might not be applicable to junior high and high school students nor to lower elementary students.

Another limitation was the length of time designated for this study. The 9 week time period for this study, while giving an indication of potential effects of using the cloze procedure, was nonetheless, somewhat short for finding out what effects were possible if cloze were to be used for an entire school year.

Finally, the standardized reading tests had two important limitations. First, the Gates-MacGinitie Reading Test, Form D had limited sensitivity for this short a term project. Second, since these were sixth graders involved in the experiment, the Form D version of the Gates-MacGinitie Reading Test, which was designed for grades 4-6, would have limited possibility for showing the improvement of Ss who scored very high at the beginning of the study.

Overview of Study

The Ss were pre- and posttested with the Gates-MacGinitie Reading Tests. Additionally, the Ss were given informal cloze tests written by the investigator.

Finally, at the end of the unit, the Ss were given an informal social studies unit test written by the authors of the social studies textbook. The experimental group received social studies instruction using the cloze exercises designed by the experimenter. The control group was instructed by the same teacher in the same social studies lessons without the cloze exercises. Arrangements were made, so that the same amount of time was spent in social studies instruction for both the experimental and control groups.

The social studies text used was Our Beginnings in the Old World, published by Laidlaw Brothers. Unit 4, "Europe in the Middle Ages," was the unit of concern. The study continued for a period of 9 weeks during which time five chapters comprising the unit plus two supplemental chapters were studied.

A comparison of the rate of growth in reading as measured by the raw scores on the Gates-MacGinitie Reading Tests and the raw scores on the experimenter constructed cloze tests was made between the experimental and control groups. Finally, a comparison of the scores on the social studies unit test written by the authors of the social studies text over Unit 4 was made between the experimental and control groups.

CHAPTER II

REVIEW OF THE LITERATURE

Although there are enormous amounts of material concerning the cloze procedure, the vast majority of research deals with measurement. There are only a very few studies looking at cloze as an instructional tool, and there is still less material relating to specific procedures for employing cloze exercises successfully in teaching reading comprehension. This chapter will first look at Taylor's work which generated the idea of using the cloze procedure in education. Part II will review Wendell Weaver's work relating to the theoretical aspects of the cloze procedure. Part III, and the major section of the chapter, will report the various studies which have been done using the cloze procedure as a teaching technique. Finally, Part IV, will report various experts' suggestions for using the cloze procedure in a classroom situation.

Conceptualization and Initiation of the Cloze Procedure

Taylor (1953) whose work was referred to in Chapter I defined the cloze procedure as:

1. Intercepting a message from a transmitter (writer or speaker)

2. Mutilating its language patterns by deleting parts
3. Administering it to receivers (readers or listeners) who proceed to make the pattern whole again.

This definition is the generally accepted one (Rupley, 1973).

Various other educators have suggested uses for the cloze procedure, since Taylor's beginning in 1953. Ideas for using the cloze procedure in measurement and diagnosis include:

1. Determining readability.
2. Ranking of students within a class.
3. Testing comprehension, both general and specific.
4. Determining the student's independent, instruction, and frustration levels of reading.
5. Determining the student's understanding of subject matter content.
6. Testing a student's understanding of syntax.
7. Measuring creativity, intelligence, concept development, and dynamics of thinking.
8. Testing interests.
9. Using as personality tests.

Both suggested and experimental uses of the cloze procedure for instructional uses include:

1. Teaching the student to use context clues.
2. Teaching vocabulary.
3. Teaching understanding of syntax.

4. Teaching students to work with varying degrees of sentence complexity.

5. Using in the classroom to teach creative reading.

6. Using in the classroom as games.

7. Using for instruction in remedial reading. (Lecture notes in Reading Foundations, December 19, 1974; Hafner, 1965)

Theoretical Aspects of the Cloze Procedure

Wendell Weaver's work (1965) is important, because it provides a carefully worked out and cogent thesis regarding the cloze procedure's importance theoretically. In this discussion, Weaver noted that "the cloze procedure spreads before the subject a language sequence in a relatively normal form" (Weaver, 1965, p. 131). However, at some point in this sequence there is a gap which the reader must fill. This requires "an analysis, a search of a distribution of probable elements in order to arrive at a most likely one" (Weaver, 1965, p. 131). As such, in the midst of the reader's decoding operation, he suddenly must operate in a precise and productive way. Thus, one can get a close-up view of what is occurring at given points in a language passage. In Weaver's estimation, the cloze procedure gives psychologists and educators the opportunity to examine syntactic and semantic effects of context on language units. Thus, major theoretical implications for the psychology of language and thought become possible.

The Cloze Procedure as a Teaching Device

Many researchers have recognized that the ability to utilize context cues was directly correlated with reading ability. Thus, interest turned first toward classification of various kinds of context clues which can be utilized by a reader (Quealy, 1969; Rankin & Overholser, 1969; Ames, 1966; Weaver, et al., 1971 and Williamson, 1972). Then, interest turned toward methodological considerations regarding how to teach students to utilize these context cues (Hafner, 1965). Many researchers, interested in finding a good means of teaching students to utilize context cues, turned to the cloze procedure.

The cloze procedure, long used in measurement and readability studies, was drawing interest as one of the most promising teaching techniques developed in the last decade. It remained for educators to research this "new" tool. (Like most trends in education, the cloze procedure is not really new; it has a long and respectable history as a fill-in-the-blank type problem.)

Roossinck (summarized in Jongsma, 1971) did an exploratory study in which she developed a type of programmed learning procedure which consisted of 200 cloze exercises. The cloze exercises gradually increased in difficulty and in grammatical complexity. Deletions were made selectively and vocabulary and concept load were kept low. The significant features of the study were (1) the development of a hierarchy of grammatical complexity; (2) an attempt to control deletions while increasing exercise difficulty; and (3) the linkage of the cloze procedure with programmed instruction. However, the Roossinck study did not show that the cloze procedure actually improved comprehension or increased reading proficiency.

Bloomer (1962) used the cloze procedure as a remedial teaching technique for college students. Of three groups in the study, one received cloze exercises, a second proceeded with traditional remedial exercises, and a third group received no treatment at all. Pre- and posttesting on the survey section of the Diagnostic Reading Test revealed that the group using cloze exercises increased significantly more in comprehension and total reading ability. Also, the achieved grade point averages were greater than the predicted grade point averages made at the beginning of the study. Additionally, Bloomer concluded that cloze exercises should be limited to junior and senior high school students, since he felt that anyone doing cloze exercises must be able to read well and clearly all words presented. Thus, there could be no problem with word recognition or phonics. Again, Jongsma criticized this study on the grounds that there was no real teaching done. Furthermore, Jongsma felt that basic procedures necessary to a good statistical design, i.e. the selection of Ss further weakened the results.

Schneyer (1965) using cloze exercises built on 10th word mechanical deletions and another built on noun-verb deletions, explored the effects of cloze exercises on 6th grade pupils. The experimental group did three exercises of each type at each reading level (making a total of 57 exercises) at the rate of one a day. The control group received the regular basal instructional program. The results showed that there were no significant differences in performance on a final reading comprehension test between the mean scores of pupils who used the cloze exercises and those who did not. Secondly, performance of the experimental class on the 10th word mechanical deletion cloze exercise was found to be significantly more related to IQ than the noun-verb deletion system, thus substantiating Rankin's earlier contention that the mechanical deletion was related more to IQ, whereas the selective deletion of nouns and verbs provided a measure of comprehension less influenced by intelligence. In hypothesizing why the experimental group and control group had the same scores, Schneyer felt that "the reasons for the appropriate responses must be verbalized" (Schneyer, 1965, p. 178). Thus, the critical factor in working with cloze exercises was not just that the reader did the exercises, but rather that the reader was aware of the reasons for the appropriateness of specific words for each blank in the passage.

Bloomer (1966) and Heitzman and Bloomer (1967) explored the effects of non-overt reinforced cloze procedure on reading comprehension. Hypothesizing that doing cloze exercises was intrinsically reinforcing because the individual matched his language patterns to those of the author, Bloomer and Heitzman deduced that an individual just doing cloze exercises without feedback could improve his reading comprehension. Both studies utilized seven different forms of deletion patterns: 1. Type 0--zero deletions: (This group was the control group which was required to read an intact passage with no deletions. Thus, this group did not do cloze passages as such.) 2. Type 1--10% deletions: Random; 3. Type 2--10% deletions: Nouns; 4. Type 3--10% Verbs (auxiliary verbs were not included); 5. Type 4--10% Modifiers; 6. Type 5--10%: Prepositions and conjunctions; and 7. Type 6--10%: Noun determiners.

In the Bloomer study, 1,411 pupils from a school district in New York State in grades 5, 7, 9 and 11 were selected as subjects (Ss). Each student did a cloze exercise utilizing six of the deletion patterns along with 12 comprehension questions over each passage. Ten weeks after completion of the cloze exercises, the students were given a recall test comprised of thirty-six items. The thirty-six items consisted of six of the 12 comprehension questions which were used on each of the six exercises after each selection.

The results showed that Type 0, Type 1 (random deletions), Type 5 (prepositions and conjunctions) and Type 6 (noun determiners) deletions produced comprehension superior to the other types of deletion patterns. However, interestingly enough, the long term recall test showed that Type 6 (noun determiners), Type 5 (prepositions and conjunctions), Type 2 (nouns) and Type 3 (verbs) produced long term recall similar to any of the other deletion patterns. Type 0 and Type 1 produced the lowest long term recall, in sharp contrast to the results of the paragraph comprehension questions given immediately after completion of the exercises. This result suggested to Bloomer that the cloze procedure measured a comprehension skill which is different from the traditional paragraph question technique. Finally, this study showed that students working on material which was extremely easy for them, i.e. material 6 reading levels below their ability, could not derive sufficient self-reinforcement from reading the material or completing the cloze material to comprehend at a level better than that of the ninth grade.

In the Heitzman and Bloomer study, 125 9th grade students from an upstate New York school were the subjects (Ss). Each pupil received exercises of only a single deletion type. The Ss, then, worked on the cloze exercises at the rate of two a week for twelve weeks.

The Iowa Test of Basic Skills was used to measure differences between the Control (C) group and the Experimental (E) groups. The data showed that there were no significant differences between the C group and E groups in reading or in language skills, except in spelling. In spelling, those E groups which had deletions of either modifiers or prepositions and conjunctions appeared to increase spelling ability.

Heitzman and Bloomer concluded that the use of non-overt reinforced cloze procedure is not effective for producing increased reading comprehension. They believed that the use of the procedure itself plus the methodology was important to successful results. Furthermore, the researchers implied that reinforcement for a correct response was important and they suggested that an individual's progress through the cloze materials should be related to the quality of that individual's responses.

In another related study, the most ambitious one to date, Bloomer and others (summarized in Jongsma, 1971) did a two-phase study in which Phase I consisted of 5th, 7th, 9th, and 11th graders receiving a total of six cloze exercises in a three week period. In the second phase, called the longitudinal phase, 9th graders continued working two cloze exercises per week for a period of 12 weeks. Over 1,000 students from 49 classrooms were involved. Seven treatment conditions were developed which consisted of: (1) no deletions; (2) mechanical deletions; and, deletions of (3) nouns; (4) verbs; (5) modifiers--adjectives and adverbs; (6) function words--prepositions and conjunctions; and, (7) noun determiners. Deletions were on 10% of the passages. Each passage was followed by 12 comprehension questions, six factual and six inferential. The theory was that just the act of filling in the cloze unit was intrinsically reinforcing and presumably would increase reading ability. The basic finding of this study was that there was no significant improvement in comprehension test scores as Ss progressed through the cloze exercises; the use of the non-overt reinforced cloze did not increase reading ability. However, another outcome of the study which this writer considers to be important was that there were differential effects of the varying syntactic deletions. For example, the deletion of noun determiners produced comprehension superior to that of intact passages. The removal of modifiers, on the other hand, distorted meaning and hampered comprehension. Again, the authors suggested: (1) more reinforcement by the teacher for correct responses, including synonyms; and (2) providing a motivational scheme in that a student's movement through the exercises is contingent upon the quality of his responses.

Martin (summarized in Jongsma, 1971) reported a study in which there were one control group and two experimental groups. One experimental group studied transformational grammar. The other experimental group received cloze exercises which were obtained from a variety of content sources and had selective deletions of lexical elements--nouns, verbs, adjectives, and adverbs. During the first week, two multiple-choice alternatives, based on grammatical and semantic criteria were given for each cloze blank. After the first week, no multiple-choice alternatives were used, and the students had to fill in the blanks on their own. Additionally, the cloze training consisted of the completion of an exercise followed by class discussion led by the teacher in which students verbalized their reasons for making certain choices. The control group took a regular freshman English composition course.

The results of the study indicated that both experimental groups made significantly greater gains on the Iowa Silent Reading Test than the control group. However, there were no significant differences between the two experimental groups. Martin's study is important because his study marked the first real attempt to use cloze in an actual teaching situation. It is not surprising that his study reversed the non-significant trend of earlier studies. The critical point here is that Martin concluded that verbalizing the reasons for clozures was highly appropriate for instruction using the cloze procedure.

Although most researchers concluded that cloze exercises could not be employed with children who were still learning decoding and word analysis skills (thus eliminating most children under the 4th grade) Kingston and Weaver (summarized in Jongsma, 1971) examined the use of cloze-like tasks with culturally disadvantaged first graders. The experimenters began the reading lesson with a language experience approach and gradually began deleting lexical elements from the experience stories. Then the children were asked to suggest all words that would make sense for the deletions. Their contributions were discussed and related to the context.

Later in the year, several tests were given: (1) a series of cloze tests; (2) the Ginn Pre-Primer

Achievement Test; (3) the Ginn Primary Achievement Test; (4) The Lee-Clark Readiness Test; and (5) the reading, arithmetic, and language sections of the California Achievement Test. Regarding the series of cloze tests, four kinds of cloze exercises were used:

a. Any word cloze--random, every nth
b. Multiple-choice, structural cloze--function words
c. Multiple-choice, lexical cloze--nouns, verbs, adjectives
d. Aural-reading cloze--random, every nth deletions

After the data were analyzed, Kingston and Weaver reported two major ideas evolving from their study. First, both the multiple-choice, lexical cloze test and the any word cloze test proved to be better predictors of first grade reading achievement than did the standardized readiness tests. Second, the study demonstrated that first graders could, indeed, begin performing on written cloze tests soon after they began reading. An additional plus was that the cloze technique proved to be highly motivating to the culturally disadvantaged students of this study.

Kennedy and Weener (1973) reported a study in which visual and auditory training was done using the cloze procedure in order to improve reading comprehension.

Eighty third grade students, all below average in reading ability, were divided into four groups of twenty students each. Control group one received no special treatment and remained in the regular classroom. Control group two spent their time individually practicing oral reading for the same time that the experimental groups spent in training. The experimental reading group received training visually with the cloze procedure, and the experimental listening group received training auditorially with the cloze procedure. Each training group began each session by getting instructions and three sample sentences. Then, ten training sentences were presented, either visually or auditorially depending on the experimental condition to be followed. After this, each experimental group was presented with a short story either auditorially or visually. Each session lasted for twenty minutes and was continued for five sessions. Synonym scoring was done in which a word was considered correct if it made sense both syntactically and semantically.

The results showed that visual training with cloze exercises improved reading comprehension, based on The Durrell Listening-Reading Series reading comprehension subtest. Furthermore, there was some effect from visual training on the listening subtest, as well. The auditory training showed transfer effects to the listening tests of the Durrell Series. Last, the group receiving auditory training scored higher on the Durrell reading comprehension subtest than the control class group, but not higher than the control reading group.

From this study, Kennedy and Weener surmised that cloze training resulted in an increased ability to use context clues. Furthermore, the researchers felt that using the cloze procedure had a psychological effect in that the students began to pay attention to units longer than the word. Finally, they suggested that the cloze procedure warranted serious consideration in a remedial reading program, since the experimental group receiving visual training scored an average of one grade level higher than the other three groups on the Durrell reading comprehension subtest. This result came about after only a total of one hour and forty minutes of individual training.

In a reaction to the Kennedy and Weener study, Wardrop and Essex (1973) criticized the research, suggesting that the control groups did not control and that there was a "design analysis mismatch" (p. 542). In analyzing the control groups, Wardrop and Essex noted that the control class group must have done something. It was impossible for them not to have done anything. Thus, the ambiguous presentation of the control variable made it impossible to observe whether this group controlled for any relevant variables. Furthermore, with regard to the control reading group the authors pointed out that it was not possible to determine if the control reading group had had individualized reading instruction as had the experimental group. Also, the authors reasoned that it was possible for the experimental groups' gains to be made because of practice effects. Therefore, it would be crucial for the control groups to have the same opportunity for practice that the experimental groups had had.

Regarding the design analysis Wardrop and Essex believed that measuring Listening Comprehension and Reading Comprehension was entirely invalid, because to do this would be to assume that these two subtests were measures of the same construct. Thus, in a complicated statistical critique the two authors argue that the repeated ANOVA measures done by Kennedy and Weener were inadequate and should be replaced by a "multiple discriminative analysis in which there would be a weighted sum of dependent variables" (p. 555).

Many other researchers, in their doctoral dissertations, have examined the use of the cloze procedure in terms of its effectiveness as a teaching device. Although the results were mixed, most of the studies showed that employing the cloze procedure did not significantly improve comprehension.

Using fourth grade students, Faubion (1971) did not find that there was a significant difference between students who received cloze training and those who did not. In his study using college students, Guice (1966) found that there was no significant difference in reading comprehension between the experimental group receiving regular instruction in reading comprehension and the cloze procedure and the control group just receiving regular instruction in reading comprehension.

Guscott (1971), using sixth grade subjects, found that instruction with the cloze procedure *did* produce significantly better scores on a standardized reading achievement test. Perhaps one of the reasons for this result was that Guscott constructed cloze exercises deleting noun determiners, whereas the other researchers used a mechanical deletion pattern.

Smith (1969), using junior college readers who worked in materials in which every 10th concept word was deleted, found that the cloze procedure was valuable for demonstrating the process of comprehension, and for pointing out to students their own deficiencies in the comprehension process. However, he had no measurable results in terms of improvement of reading comprehension or lack of it.

Stewart (1967) in a study examining the effectiveness of cloze materials versus college reading textbook materials found that there were no significant differences in reading comprehension between the two groups of college readers.

Ellington (1972) used eleventh grade students who were divided into three groups: 1) cloze reading group; 2) conventional reading group, and 3) no reading group. She found no significant differences existed among the three reading groups on a standardized reading comprehension test.

Rynders (1971), using the same materials presented either in a cloze format or in an unmutilated format followed by questions over the passage, found that there were no significant differences in the reading comprehension of 189 sixth graders.

Culhane (1972) did a three phase study in which phase I determined if an expanded form of directions would improve student performance and phase II looked at whether learning could be increased if there were teacher-led discussion groups rather than student-led discussion groups. Finding that expanded directions did not improve performance, but that teacher-led groups did, Culhane embarked on phase III. Phase III was a comparison of the cloze procedure to a more traditional method of developing reading comprehension. He found that cloze did improve subjects' acquisition of information when reading expository materials.

All of these studies looked at together show the importance of very carefully determining the procedures to be followed when doing cloze exercises. In the two studies in which positive results were found when using the cloze procedure, the conditions were characterized by the following: 1) working actively with students, 2) synonym scoring, and 3) a deletion pattern other than mechanical.

In research not directly utilizing the cloze procedure, but certainly related to the use of it. Steiner, Wiener and Cromer (1971) did a study in which they evaluated comprehension training for good and poor readers. After the authors distinguished between identifying or saying written words, and comprehending or getting meaning from written words, the authors devised an experiment to determine whether poor readers who do not appear to use context cues, can be aided in the identification process by being given supplemental contextual information. The study consisted of four experimental conditions: 1) single word presentation with no comprehension training; 2) a single word presentation with comprehension training; 3) a paragraph presented with no comprehension training, and 4) a paragraph presented with comprehension training.

The results of this study showed that, as expected, good readers perform much better than poor readers in the word identification process. However, contrary to what was expected, good readers made significantly more identification errors when given comprehension training, while poor readers showed no significant effect. Both good and poor readers made significantly fewer errors with a single word mode than with a paragraph mode of presentation. Finally, comprehension training seemed to aid the identification process with single word presentation, but hinder the identification process with the paragraph mode of presentation.

In discussing these results the authors observed that even considering the greater error rate with good readers given comprehension training, they made "good" errors or anticipatory errors and then corrected themselves later. Poor readers, on the other hand, did not utilize the comprehension training at all. This result led the authors to believe that poor readers not only failed to extract contextual cues important for identification, but also failed to use such cues in identification even when presented with them. Thus, poor readers failed to organize reading materials into critical syntactic groupings, failed to make use of signal systems in their language and failed to extract either syntactic cues or semantic cues.

This writer has puzzled over the conflicting cloze research which shows very good results at times and at other times shows no significant results. It seems that the most impressive results came about when the researchers worked with remedial readers. Perhaps this study just examined offers a clue as to the reason for this. If it is true that poor readers cannot or do not organize reading materials into syntactic groupings and then utilize those syntactic groupings for comprehension, then the cloze procedure which affords these students the opportunity to practice in materials particular to this problem would be very effective. This, then, could account for the impressive gains made by poor readers whenever using the cloze procedure.

Cloze in the Classroom

A number of prestigious researchers, important in developing and popularizing the cloze procedure, have offered interesting ideas regarding cloze. Their ideas have ranged from novel ideas to be used in teaching to varying ways of introducing cloze to the classroom (Hafner, 1967; Cranney, 1968; Bloomer, 1968; Rankin, 1968; Weaver, 1968; Brown, 1968; and Greene, 1968). However, only ideas specifically relating to employing cloze in the classroom will be included here.

Bloomer (1968) suggests organizing material such that the first work the student gets will be highly structured. As the student continues to work, he will have to insert more and more of his own structure and organization. This process Bloomer calls fading. He observes that by using the fading cloze, the child will be assisted in the organization of his thoughts.

Along this same idea Rankin (1969) suggested preparing materials first with an every 10th word deletion, then an every 7th word deletion and finally an every 5th word deletion. Thus, the child begins with maximum context (and potential for success) by doing materials with an every 10th word deletion. Then, after he manages on an every 10th word deletion, he moves to an every 7th word deletion and so on. If this is done, said Rankin, the child will not become overwhelmed by what he determines to be an infinite choice of words to go in a blank.

Kennedy (1974) suggested that students first be given only one sentence to work on. On this sentence the child would practice interpreting the overall meaning of a sentence with deletions. Next, the child would practice verbalizing the missing words. Eventually the child would be led to see that information given in the preceding or following sentences might be needed to find the best word for the blank.

Finally, two other journal articles sum up very practically and specifically the procedural steps in using a cloze exercise in class (Schell, 1972; Bortnick & Lopardo, 1973). This writer found these articles useful in that they synthesized the major research discoveries and subsequently translated them into a set of procedures specific to classroom use. It is with these procedural articles that this literature review will conclude.

Schell, Bortnick and Lopardo suggested a number of general procedures to be followed for improving comprehension via the cloze procedure. These general guidelines are as follows:

1. Begin with a two item multiple-choice format in material at or below the student's independent reading level. At early stages, delete only nouns and verbs. Then gradually (a) give more items to choose from; (b) eliminate all answers and force the reader to supply words on his own; (c) and/or delete words in other grammatical categories.
2. Instruct students to read silently the entire cloze passage which has been prepared for them.
3. Discussion of the process is imperative. The students must understand how to delimit

a body of feasible options, how to use context to determine whether a word is sensible, and how his own oral language is an inestimable help.

4. When scoring, the exact word should not be demanded if the instructor is using completion-type exercises. Rather, the instructor should accept synonyms, definitions, and close guesses. Schell suggests that 95% correct is an acceptable score.
5. Selections should be made self-checking for immediate reinforcement and feedback, as well as for easy recording on progress charts.
6. The cloze passage with possible correct responses is then compared with the original, unmutilated passage.
7. The instruction needs to be systematic, long term, and organized.

Bortnick and Lopardo admit that preparing cloze passages is time consuming. However, they point out that the teacher in doing this has the advantage of using materials which are particular to the students' needs. Furthermore, if Dolores Kennedy is correct in her assumption that training with the cloze procedure helps "focus the child's attention on the conceptual aspect of reading rather than the perceptual aspect," (p. 86) then the teacher's time will, indeed, be well spent.

These last procedures are important in that they suggest the most appropriate means for using the cloze procedure instructionally. As such, students will be instructed to read the passage through section by section, so that there will be maximum use of context. Once the cloze exercises are completed, students' answers will be discussed. Finally, students will compare their answers with the author's words; however, there will be little emphasis on scoring and the author's exact words will not be required.

CHAPTER III

EXPERIMENTAL DESIGN, METHODS, AND PROCEDURE

The purpose of this chapter is to describe the methods used in conducting this investigation. Included is a description of subjects, materials utilized, tests employed, procedures followed and statistical design employed.

Description of Subjects

Participants in this study were all the sixth grade students from the Lucy D. Anthony School in Madison, New Jersey. A total of forty-two students, sixteen girls and twenty-six boys, participated.

The Lucy D. Anthony School has a large number of students of Italian descent. Furthermore, it is not unusual for a child to enter school at the kindergarten level not knowing any English. In general the school population consists primarily of children of a working class population (Census, 1970).

The participating students consisted of all the sixth graders in the Lucy D. Anthony School, who had previously been divided into two classes. For the experiment each class was assigned to one of two conditions--experimental or control. Thus, twenty-one students were assigned to the experimental condition and twenty-one to the control condition.

The material used for the study was the school's sixth grade social studies textbook, Our Beginnings in the Old World, published by Laidlaw Brothers. The unit of concern was Unit IV, "Europe in the Middle Ages." This unit consisted of five chapters spanning fifty pages. A readability check on this book revealed that the book was at the sixth grade readability level (Fry, 1968).

Pilot Study

Two pilot studies were done in order to be familiar with possible problems, time needed for preparing cloze passages and the students' reactions to cloze. The reaction of students was generally very favorable; however, some adjustment needed to be made for those students who could not stand the uncertainty of the cloze procedure. Such variations as forced cloze and partial cloze helped those students who found the procedure too difficult at first.

It also became evident that a great deal of teaching could take place with only eight deletions. By the same token, longer passages which the students did at home and then brought back to class were also successful. In all cases it was extremely important for the teacher to discuss a few of the more important deletions, so that students could verbalize their reasons for selection of a particular word.

The outcomes of these pilot studies revealed that a 10% selective deletion pattern, one in which groups of ten words are counted off and then one word is selected from each group of ten words to delete, was more effective for teaching comprehension than a mechanical deletion pattern. The selective deletion pattern was more flexible and allowed for very specific teacher purposes. Also, the studies demonstrated how important it was for the students and teacher to engage in active discussion regarding selection of words for the blanks. However, it was not possible to discuss all of the blanks; rather it was for the teacher to limit discussion to only a few of the blanks.

Cloze Exercise Construction

The cloze exercises were constructed by using a 10% selective deletion pattern. This is a pattern in which ten words are counted off, and one word out of these ten words is selected to delete. Then, another ten words are counted off and one more word is selected to delete. This procedure is continued, then, until the desired number of deletions are made.

On the first two exercises, the most frequent type of word class selected for deletion was the noun determiner, since the literature showed that deleting noun determiners improved both comprehension and long term recall (Bloomer, 1966; Bloomer, et al., 1966; Guscott, 1971). Additionally, other kinds of words which were deleted included nouns and a few structure words like prepositions and conjunctions. Words which were generally not deleted included meaning bearing adjectives and adverbs, since the literature showed that deletions of this kind generally disrupted comprehension and distorted meaning (Bloomer, et al., 1966).

However, after the experimental group had done the first two cloze exercises, it became evident that continually deleting so many noun determiners and structure words like prepositions and conjunctions made the exercises very boring to the students. Therefore, there was an attempt made to delete a variety of words representing different word classes. In general, the experimenter tried to balance the deletions so that about one-half of them were very easy to get, for example, noun determiners and prepositions, while the other one-half of the deletions represented a variety of word classes. On these last deletions every attempt was made to select those words which required the students to use inference and logic skills to arrive at the missing word.

The passages were made over each complete chapter. Since nearly one-half of every chapter consisted of charts, maps, pictures and diagrams, the total number of cloze exercises were written over only 30 pages.

Once the deletion of words had been determined, the material was typed on a spirit master. Each deleted word was replaced by a typewritten blank of ten spaces. The first and last paragraphs were left intact, in order for the students to get better understanding of the context. Finally, all passages were duplicated, so that each student in the experimental condition had a passage.

Selection of Tests

The Gates-MacGinitie Reading Test, Survey D, Forms 2 and 3 were used to evaluate initial reading comprehension and to determine group gains at the end of the study. According to critical reviews of this test, the standardization was carefully done and the norming group was adequate. Furthermore, alternate-form reliability ranged from .78 to .89, an acceptable reliability coefficient (Buros, 1972).

Additionally, cloze tests constructed by the experimenter were given to evaluate initial reading comprehension and to determine group gains at the end of the study. In order to control for possible uneven difficulty of the cloze tests, two cloze passages were constructed and given in the A B B A paradigm. (See next paragraph for an explanation.) The material utilized for the cloze tests consisted of two, 275 word passages from the social studies text, Our Beginnings in the Old World, which the students had not previously seen. An every 5th word mechanical deletion pattern was used on the passages. The result was that on cloze test A there were 55 deletions and on cloze test B there were 51 deletions.

The students were given the passages in an A B B A paradigm in which half of the experimental group and half of the control group each received the A passage on the pretest. Those subjects not receiving the A cloze passage received the B passage. On the posttest, the groups that received the A passage in the pretest situation received the B passage, and the groups receiving the B passage in the pretest situation received the A passage.

Only the author's exact words were scored as correct. Each individual was given the number correct in raw score points; however, only the group means of the experimental and control groups were utilized to determine group gains.

Finally, a social studies unit test was given to both the experimental and control groups after they had completed the unit "Europe in the Middle Ages" from the social studies text. This test had high curricular validity, since the test items were constructed to measure specifically those facts, details and ideas presented in the given unit.

Additionally, a reliability check was done using the "Rational Equivalence" method as explained by Garrett (1958, p. 341). The formula used for this reliability check was the following:

$$r_{1I} = \frac{n\,\sigma^2 - M(n-M)}{\sigma_t^2\,(n-1)}$$

in which

r_{1I} = reliability of the whole test

n = number of items in the text

σt = SD of pooled experimental and control group test scores

M = the mean of the test scores

The formula was completed as follows:

$$r_{1I} = \frac{36\ (67.73) - 28.4\ (36-28.4)}{67.73\ (35)}$$

$$= \frac{2438.28-215.84}{2370.55}$$

$$= \frac{2222.44}{2370.55}$$

$$= .937$$

The reliability yielded was an acceptable .937.

With regard to the scoring of the social studies test, all questions were ones which could be scored in an objective manner. Thus, the subjectivity of the teacher was not a factor in the test results.

Description of Test Materials and Scores

The following tests were used to measure the level of achievement and ability of the experimental and control groups initially:

1. *Gates-MacGinitie Reading Test, Survey D, Forms 2 and 3*.
2. Experimenter-written cloze tests.
3. The *Lorge-Thorndike Cognitive Abilities Test, Verbal Battery, Quantitative Battery and Non Verbal Battery*.

The *Lorge-Thorndike Cognitive Abilities Test* was administered by the school system just prior to the beginning of this study. A comparison of the mean scores between the experimental and the control groups was done for each battery and a "*t*" test of significance at the .05 level was applied. (See Table 1.)

All differences on all batteries of the *Lorge-Thorndike Cognitive Abilities Test* favored the control group. These differences were not statistically significant, however. Furthermore, the Verbal battery I.Q. score would probably be the most important one for the

TABLE 1

COMPARISON BETWEEN THE EXPERIMENTAL AND THE CONTROL GROUPS ON THE LORGE-THORNDIKE COGNITIVE ABILITIES TEST

Group	N	Mean	S.D.	Diff. in Mean	"t"[a]
		Verbal Battery			
Experimental	21	106.7	13.4	1.6	.39
Control	21	108.3	12.7		
		Quantitative Battery			
Experimental	21	104.2	12.7	3.4	.72
Control	21	107.6	17.2		
		Non-Verbal Battery			
Experimental	21	101.7	9.0	5.1	1.61
Control	21	106.8	11.2		

Note: There were no significant differences.

purposes of this study, since generating answers for cloze exercises is a verbal ability. In looking more closely at the verbal battery, one can see that the differences between the means are very small, much smaller than the differences on the other two batteries.

On the Gates-MacGinitie Reading Test, both Vocabulary and Comprehension scores were examined. (See Table 2.)

The pretest showed no significant differences on either the Vocabulary or Comprehension subtests. Although the pretest scores slightly favored the experimental group, the differences were so slight as to be almost negligible.

Finally, the pretest results of the investigator-constructed cloze tests were analyzed. (See Table 3.) The pretest showed no significant differences between the control and experimental groups on the cloze tests. Again, the results slightly favored the experimental group, but the differences were so small as to be negligible.

Administration of Tests and Procedures Followed

Students used in this study were first pretested with the Gates-MacGinitie Reading Test, Survey D, Forms 2 and 3 and the cloze tests prepared by the experimenter. The Gates-MacGinitie tests were given in the

TABLE 2

COMPARISON BETWEEN THE EXPERIMENTAL AND THE CONTROL GROUPS ON THE PRETEST OF THE GATES-MacGINITIE READING TEST, D, FORMS 2 AND 3

Group	N	Mean	S.D.	Diff. in Mean	"t"[a]
		Gates-MacGinitie Vocabulary			
Experimental	21	35.6	5.8	2.6	.99
Control	21	33.6	7.2		
		Gates-MacGinitie Comprehension			
Experimental	21	40.7	7.2	1.3	.50
Control	21	39.4	9.1		

Note: There were no significant differences.

TABLE 3

A COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON THE CLOZE PRETESTS

Group	N	Mean	S.D.	Diff. in Mean	"t"[a]
Experimental	21	28.2	8.8	1.8	.70
Control	21	26.4	7.8		

Note: There were no significant differences.

same A B B A paradigm as were the cloze tests A and B. (Refer to page 39 if there is a need to review this paradigm.) The day after the pretests, the experiment began.

Experimental Group

The teacher introduced the unit and the chapter as she usually did by building concepts, developing vocabulary and promoting enthusiasm. Following this, the students were told to read the social studies chapter of concern. When the students had finished reading, their social studies work was finished for the day.

The following day, the experimental group was given a cloze passage over the entire chapter. The students were then divided into groups of three to work together on the cloze exercises. The students were instructed to first skim a given segment of the passage without filling in any blanks. Then, they were to go back and fill in all the blanks that they could.

The students worked in their own groups discussing particular words which might best be used to fill in each blank. When the students had arrived at the best possible choice, they filled in the blank in question. If the group of students could not come to a decision about what was the best choice, then each student filled in the blank with the word of his/her choice. After they had finished with one segment, they were to continue with the next segment in the same manner until they had filled in as many blanks as they could. Once this had been done, the social studies work was completed for the day.

The next day students corrected their work while the teacher read the answers. The format was one in which the teacher read the answers off while the students checked their papers. Whenever a student had a question regarding whether or not a given answer was correct, the teacher brought forth the suggested word for class discussion. Then, the entire class would discuss the appropriateness of a given response, and in so doing determine whether or not a response could be counted correct. During these sessions the students were encouraged to verbalize their thinking in making choices for a given blank. In general any response which was syntactically and semantically correct was accepted. After the correction and discussion period, the students were finished with their social studies textbook work for the week.

The scoring of the cloze exercises was done primarily to ascertain that each student was, indeed, doing the exercises. As such, the scoring procedures were of peripheral importance to the study. There was no minimum criterion that the student had to reach in order to go on to a new exercise, nor were there branching exercises which directed students to exercises of the same level of difficulty should the student score poorly on a given cloze passage. Rather, each student was given a new cloze exercise regardless of how well he/she had done on a previous passage.

For the experimental group the amount of instruction included one hour for students to work on each cloze exercise and one-half hour to correct and score that given cloze exercise. There was a total of seven chapters, so there was a total of seven hours used to do the cloze exercises and three one-half hours allotted for correcting and scoring the exercises. Thus, the total amount of instructional time devoted to using the cloze procedure during this nine week period was ten and one-half hours.

Control Group

The control group received the same introduction to the unit and the chapter as did the experimental group. On the first day, like the experimental group, the control group read the chapter intact.

The second day, however, the control group answered questions at the end of the chapter. It was arranged that there would be enough questions, so that this group spent the same amount of time answering questions as the experimental group did doing the cloze work.

The next day the control group corrected their papers under the teacher's direction and discussed their various responses.

For the control group every attempt was made to see that the amount of time spent in instruction on the seven chapters comprising the unit was the same as the time spent by the experimental group.

These procedures for each of the two groups continued at the rate of approximately one chapter per every two weeks for nine weeks. After the entire unit had been taught, all students were posttested with the Gates-MacGinitie Reading Test, D, Forms 2 and 3 and the cloze tests which were made by the experimenter. Also, the students were given an informal author test over the social studies material covered in the entire unit. The social studies unit test was given without the students rereading the unit or studying extra for the unit test.

Both the control and experimental groups were taught by the same teacher, Aldona Skrypa. Mrs. Skrypa, a qualified teacher, has many hours of graduate work in education, is experienced in giving workshops throughout the state and teaches part-time at Kean College. Mrs. Skrypa was given one, two hour inservice training session by the experimenter regarding how the cloze procedure might be best employed. After this, the experimenter kept in contact with Mrs. Skrypa, monitoring the experiment at least once a week.

Statistical Design and Treatment of Data

The experimental design was a pretest-posttest design in which means of each group were computed and compared on all of the tests. Schematically the study can be represented as follows:

$$\begin{array}{cccc} R & 0_1 & X_1 & 0_2 \\ R & 0_3 & X_2 & 0_4 \end{array}$$

R = Random assignment of pupils (in class groups) to separate treatments

X = Symbol for the independent variables

0 = Measuring or testing procedures

The raw scores on the Gates-MacGinitie testing instrument were used to determine comprehension achievement. The mean raw score of the control group was compared to the mean raw score of the cloze group to see if the experimental treatment was significant. A *t* test was applied to the test results to determine the effect of cloze on reading comprehension. Differences were considered significant at the .05 level.

Raw scores from the cloze tests were used to evaluate reading comprehension. All of the raw scores from the experimental group were averaged and all of the raw scores from the control group were averaged. The mean scores of the two groups were then compared to see if the treatment were effective. A t test was applied to the test results to determine the effect of cloze training on reading comprehension. Differences were considered significant at the .05 level. Additionally, pre- and posttest means within each group were compared. Whenever this was done, a t test using correlated means was applied. Again, differences were considered significant at the .05 level.

Percentage scores from the social studies unit test were used to determine recall of the social studies material. The mean score of the control group and the mean score of the experimental group was, then, compared to see if the treatment were effective. Again, a t test was applied to the test results to determine the effect of cloze on recall. Differences were considered significant at the .05 level.

Summary

The effect of the cloze procedure on reading comprehension and delayed recall of social studies material was tested in an experiment with one treatment group and one control group. Forty-two sixth grade students, in which 21 students were assigned to each group, participated. The study ran for nine weeks during which a five chapter unit plus two supplemental chapters were covered. A t test was employed to compare the means of the experimental and control groups on the Gates-MacGinitie Reading Test, D, on informal experimenter-written chapters, and on an informal author test over the social studies unit.

CHAPTER IV

RESULTS AND DISCUSSION

Comparisons between the experimental and control groups were made by analyzing the mean scores of each group on the Gates-MacGinitie Reading Test, D, Forms 2 and 3 and experimenter-made cloze tests. The data collected were analyzed to determine the effect of cloze training on the two dependent variables.

The hypotheses were as follows:

1. There would be no significant differences between the experimental group's and the control group's reading comprehension as measured by the Gates-MacGinitie Reading Test, D, Forms 2 and 3.
2. There would be no significant differences between the experimental group's and the control group's reading comprehension as measured by the cloze tests constructed by the investigator.
3. There would be no significant differences between the experimental group's recall of the social studies unit material and the

control group's recall as measured by the informal test written by the authors of the social studies text.

The results of this study revealed that the first hypothesis was accepted; however, the second and the third hypotheses were rejected.

Results

Mean Differences Between Experimental and Control Groups on Reading Comprehension Tests

The first major hypothesis raised the question of whether training with seven cloze exercises would increase the reading comprehension of the experimental group as compared to the control group. This hypothesis was tested by two measures, the Gates-MacGinitie Reading Test, D, Forms 2 and 3 and experimenter-written cloze tests. The data as shown by Table 4 indicate that cloze training produced negligible differences between pre-treatment and post-treatment means.

On the Gates-MacGinitie Reading Test for the experimental group the test results were as follows:

1. On the Vocabulary section of the Gates-MacGinitie Reading Test, the difference between the pretest raw score mean of 35.6 and posttest mean of 36.5 raw score points was .9, or not quite one raw score point.

TABLE 4

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON THE GATES-MacGINITIE READING TEST IN RAW SCORE POINTS

Group	N	Pre-Test Means	S.D.	"t"[a]	Post-Test Means	S.D.	"t"[a]	Mean Gain	Diff. Gain	Pre- to Post- "t"[b]
Gates-MacGinitie Vocabulary										
Experimental	21	35.6	5.8	0.99	36.5	5.3	1.19	0.9	0.3	0.86
Control	21	33.6	7.2		34.2	7.0		0.6		0.51
Gates-MacGinitie Comprehension										
Experimental	21	40.7	7.2	0.50	40.9	8.0	0.39	0.2	2.4	0.11
Control	21	39.4	9.2		42.0	10.0		2.6		1.92

[a] (df-40) = 2.02; $p<.05$

[b] (df-20) = 2.09; $p<.05$ (*t*-test using correlated means)

2. On the Comprehension section of the same test, the pre- and posttest raw score means of 40.7 and 40.9, respectively, resulted in a gain of .2 of a raw score point.

A comparison of mean gains was made between the experimental and control groups, and a *t* test of significance was applied.

As Table 4 shows, on the Vocabulary section of the *Gates-MacGinitie Reading Test*, the control group had a raw score mean of 33.6 on the pretest and 34.2 on the posttest. This resulted in an average gain of .6 of a raw score point. Overall, the experimental group had an average gain of .9 of a raw score point, and the control group had an average gain of .6 of a raw score point. The .3 difference between the two groups as well as the differences between the pre- and posttest means on the Vocabulary section of the *Gates-MacGinitie Reading Test* were not significant.

On the cloze tests devised by the investigator the difference between the experimental group's pretest mean of 14.86 raw score points and 15.10 raw score points was .24 of a raw score point. This difference of .24 of a raw score point was not statistically significant as is shown in Table 5.

A comparison of mean gains was, then, made between the pre- and posttest mean scores of the control

TABLE 5

COMPARISON OF EXPERIMENTAL AND CONTROL GROUPS' PRE- AND POSTTESTS IN RAW SCORE POINTS ON 51 ITEM CLOZE TESTS (MECHANICAL DELETION)

Group	N	Pretest Mean	S.D.	Posttest Mean	S.D.	Gain	"t"[a]
Experimental	21	14.86	4.16	15.10	3.52	0.24	0.25
Control	21	13.76	4.25	17.62	8.82	3.86	2.21*

[a] (df-20) = 2.09; $p<.05$ (t-test computed using correlated means)

*Significant at $p<.05$

group on the cloze tests constructed by this investigator. On the pretest the control group had a mean average of 13.76 raw score points, while on the posttest the control group had a mean average of 17.62 raw score points. Thus, there was a gain of 3.86 raw score points. The t test of significance using correlated means was applied with the result that there was a statistically significant difference at the .05 level (See Table 5).

Finally, the pre- and posttest means of the cloze tests were compared between the experimental and control groups. However, there was a problem due to the fact that there were unequal numbers of blanks on cloze test A and cloze test B. While cloze test A had 55 blanks, cloze test B had only 51 blanks. Therefore, four questions from cloze test A were deleted when the raw scores of each subject were determined. The four extra blanks were left on the test, however, so that students could use the context of the entire section to determine answers for the existing blanks.

On these cloze tests the experimental and control groups had mean pretest scores of 14.86 and 13.76, respectively. When the t test was applied to the two means, there was no statistically significant difference (See Table 6).

TABLE 6

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS IN RAW SCORE POINTS ON 51 ITEM CLOZE TESTS (MECHANICAL DELETION)

Group	N	Pre-test Means	S.D.	"t"[a]	Post-test Means	S.D.	"t"[a]	Mean Gain	Diff. Gain
Experimental	21	14.86	4.16	0.85	15.10	3.52	1.22	0.24	3.62
Control	21	13.76	4.25		17.62	8.82		3.86	

[a] (df-40) = 2.02; $p<.05$

Finally, a comparison of posttest means between the experimental and control groups was done on the cloze tests. The experimental group had a posttest mean of 15.10 raw score points, while the control group had a posttest mean of 17.62 raw score points. Thus, the control group gained 2.52 more raw score points than did the experimental group. Again, a t test of significance was applied to the data. There were no significant differences (See Table 6).

The experimental group gained .24 raw score points, while the control group gained 3.86 raw score points between pre- and posttests. Thus, the control group gained 3.62 more raw score points than did the experimental group. This gain is not significant as shown by the t tests in Tables 5 and 6.

Social Studies Test Results

A comparison of the mean scores on the social studies unit test over the Middle Ages was made between the experimental and the control groups, and a t test of significance was applied.

The control group had a mean percentage score of 67.0, while the experimental group had a mean score of 90.4 on the social studies unit test. Thus, there was a difference of 23.4 percentage points between the means of the two groups. On this part of the study, the difference between the two means resulted in statistical significance at the .05 level.

More data in relation to this comparison are reported in Table 7.

Discussion

The following topics were considered: the influence of cloze exercises on reading gains, the influence of cloze exercises on the social studies unit test, the interest level of the students, and the attitudes and observations of the cooperating teacher and the researcher.

The results of this study are in agreement with some of the previous studies, but not in agreement with other previously done studies. For instance, regarding the lack of statistical significance in reading gains after training with cloze exercises, Roossinck (summarized in Jongsma, 1971), Schneyer (1965), Heitzman and Bloomer (1967), Faubion (1971), Smith (1969), Stewart (1967), Ellington (1972) and Rynders (1971) also failed to obtain significant gains in silent reading achievement using the cloze procedure. Conversely, Bloomer (1962, 1966), Martin (summarized in Jongsma, 1971), Kennedy and Weener (1973), Guscott (1971) and Culhane (1972) did report reliable gains in silent reading tests after using the cloze procedure.

TABLE 7

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON RECALL TEST OF SOCIAL STUDIES UNIT

Group	N	Mean %	S.D.	% Diff. in Mean	"t"[a]
Experimental	21	90.4	13.0	23.4	3.19*
Control	21	67.0	30.7		

[a] (df-40) = 2.02; $p<.05$

*Significant at $p<.05$

Although the present study utilized many of the same procedures in employing the cloze exercises as did the Guscott, Martin and Culhane studies, levels of significance were not reached. However, all of the above studies were deficient in reporting basic procedures. For instance, the Guscott study reported that cloze exercises had differing effects on different levels of reading achievement, but failed to point out what these differences were. The Culhane study was one in which the purpose was to develop procedures for using cloze in teaching rather than to compare cloze against other methods of reading. Thus, Culhane simply suggests that cloze may be helpful in reading achievement, but there is no explicit data to support this assertion. The Martin study had a much larger N than the study presented in this thesis; therefore, statistical significance could be arrived at more easily.

The Bloomer and the Kennedy and Weener studies show significant results when presenting cloze exercises to remedial readers. It is possible that these studies show significant gains because the experimental population consisted of remedial readers. The cloze procedure is particularly useful for remedial reading purposes, when students are weak in reading for details, since students must focus very carefully on details. Also, the cloze procedure is especially amenable to forcing the student to use grammatical cues. Possibly, this practice with the syntax of the language gives important help to the remedial reader, while such practice may not be so important for the average or above average reader. Thus, the non-significant results of this part of the present study might be explained by the fact that the experimental population was not a remedial reading population.

It seems appropriate here to comment on the fact that the control group made statistically significant gains on the cloze reading comprehension tests, but not on the Gates-MacGinitie Reading Tests. As will be discussed later in this chapter, it was apparent to the investigator that as the cloze training proceeded the students began to tire of cloze exercises in the latter part of the experiment. The students, thus, began to approach all cloze exercises rather perfunctorily. It is, therefore, conceivable that the experimental group approached the cloze posttest so apathetically that the scores were much lower than they would have been had the students been less bored. The control group, on the other hand, had the advantage of having had practice on the cloze pretesting and no fatigue factor with regard to doing cloze exercises. Thus, this group's approach to the cloze posttest was much more diligent than that of the experimental group's.

Influence of Cloze on the Social Studies Unit Test

As was reported earlier the difference in gain made between the experimental and control groups on the social studies unit test was 23.4 percent, in favor of the experimental group (See Table 7). This result was statistically significant at the .05 level.

There is relatively little research to which to refer, when one is looking at the effectiveness of the cloze procedure in enhancing long term recall. Bloomer (1966) found that deleting noun determiners, prepositions and conjunctions and nouns and verbs produced long term recall superior to deleting any other kind of word class or leaving passages intact. Bloomer, et al. (summarized in Jongsma, 1971) also found differential effects of syntactical deletion patterns; however, the results for this study referred only to reading comprehension, not to long term recall. In determining which deletions would be made, the investigator of the present study decided to abide by the findings of the 1966 Bloomer study. Accordingly, those words primarily deleted were noun determiners, prepositions and conjunctions and verbs and nouns. There were only a very few adjectives and adverbs deleted; but, whenever these two word classes were deleted, it was possible to supply the missing words by using inference or logic.

The findings of this study when compared to the Bloomer study are in agreement.

In considering the reasons why the experimental group did so well on the social studies unit test, it was inferred that the kind of questions on the unit test might be a relevant factor in the experimental group's superior performance. Without exception, each question on the unit test was a detail question requiring straight recall. The close attention to detail which the cloze procedure fosters, then, could be an important factor in the experimental group's superior achievement.

Moreover, it was observed that in doing cloze exercises the experimental students were forced to attend closely to the text, much more so than those students who were answering questions at the end of the chapter. Additionally, those students doing cloze exercises needed to pay careful attention to both grammar and logic cues, thereby gaining much practice in utilization of the context. Furthermore, when the experimental group knew that cloze exercises on the social studies chapter would be coming they did, indeed, read the assigned chapter. In sharp contrast to the experimental group those students in the control group attempted to skim the chapter just well enough to pick out the answers to the questions at the end of the chapter, rather than to read it. Thus, using the cloze procedure seemed to bring about the secondary gain of not permitting the students to substitute answering the questions for reading the chapter.

Record Keeping Procedures

Weekly records were kept of the percentage correct on all the cloze exercises done by the students. Almost without exception the scores hovered at the 50 percent mark or better. The 50 percent level of achievement on a cloze exercise is considered quite competent, that is, at the instructional level of achievement. A listing of each student's scores on each of the cloze exercises can be found in Appendix V.

Interest Level of the Students

It was reported that the interest level of the material, itself, played an important role in the students' involvement with the text. If the material were basically boring to the students, for example the chapter on Pepin, then the students' discussions of the blanks were very minimal. However, if the students were very interested in the material, for example, the chapter on the medieval knights, then the involvement in supplying missing words was considerable. So, interest plays an important role, as with anything else.

Another important consideration was the kind of deletion made. Using Bloomer's earlier findings, most of the deletions initially were noun determiner typd deletions. However, these were boring to the students. Thus, in the later chapters other kinds of deletions were made. For instance, every attempt was made to delete those words which required the student to use logic and inference skills to supply the missing word. Those chapters in which there was a mixture of easy deletions such as noun determiners and more difficult deletions such as those requiring the student to go back to antecedents or to use logic and inference skills seemed to be the most interesting and, therefore, the most successful cloze exercises. This combination required the students, in discussing their answers, to consistently use grammar cues and logic cues, while often referring back or looking forward to existing context to support their answers.

Finally, it was reported that while the first few cloze exercises were received with enthusiasm, by the time the class had reached the 6th and 7th cloze chapters, they were bored and disinterested. The obvious recommendation here is that cloze exercises should be spaced judiciously throughout a given unit.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The major purposes of this study were twofold: first to determine whether systematic inclusion of cloze exercises in a social studies unit would influence the amount of growth in reading, and second, to ascertain whether this work with the cloze procedure would improve long term recall. Another less important objective included determining whether the students found that cloze exercises made social studies material more interesting to read.

For nine weeks the experimental group was provided with cloze exercises covering the entire social studies unit, "Europe in the Middle Ages," plus two supplemental chapters dealing with the rise of the Islam religion. This totaled seven chapters covering 81 pages of text. Each chapter was dealt with in from one to two weeks, with those chapters that were longest and most difficult requiring two weeks of time. First, for both the experimental and control groups, the cooperating teacher developed readiness for the chapter which was followed by the students' reading of the assigned chapter. Then, the experimental group did cloze exercises while the control group answered questions relating to the chapter. The time spent doing these follow-up activities usually was from one to one and one-half hours for each group. After the students had completed their work, they corrected their respective assignments. The time spent in correcting these exercises was usually one-half hour for each group. The total amount of time spent in doing and correcting cloze exercises during the entire experiment was about ten hours for the experimental group. The control group spent approximately ten hours in answering questions either at the end of the chapter or in answering questions provided by the teacher from the teacher's manual of the social studies text, as well as correcting their work.

The Gates-MacGinitie Reading Test, D, Forms 2 and 3, the experimenter-constructed cloze tests and the social studies unit test written by the authors of the social studies text served as measuring instruments. Additionally, information regarding student interest in doing cloze exercises was obtained via eliciting teacher comments and listening to student comments while they were engaged in doing cloze exercises. Although any conclusions offered regarding these latter matters must be regarded as highly subjective, the study did include that which seemed to accurately reflect such things as the level of interest and involvement produced by the cloze exercises.

The following results were found:

1. There were no significant differences in the gains made by the experimental and the control groups in vocabulary achievement on the *Gates-MacGinitie Reading Test*.
2. There were no significant differences in the gains made by the experimental and control groups in silent reading achievement on the *Gates-MacGinitie Reading Test*.
3. On the social studies unit test when the *t* test of statistical significance was applied to the means of the experimental and control groups, it was found that the experimental group did recall the social studies material significantly better than did the control group. This difference was significant at the .05 level.
4. According to the cooperating teacher, the students were very enthusiastic about cloze exercises as long as the deletions made were a combination of both easy ones and difficult ones, i.e., deletions which required the student to use logic and/or inference

skills in filling in the missing word, as well as noun determiner type of deletions which were considered very easy. However, it was also observed that a constant diet of cloze exercises caused the students to become bored and disinterested.

5. Very close reading of the text was done by the students when they knew they had cloze exercises to do. In contrast, the control group often skimmed the assigned chapter just well enough to answer the questions at the end of the chapter.
6. Overall, informal observations of the experimental group in the act of reasoning out the cloze exercises revealed that in discussing their answers the students consistently used grammar and logic cues, while often referring back or looking forward to existing context to support their answers.

Conclusions and Recommendations

The results of this study do not preclude the possibility that cloze exercises are helpful in improving reading comprehension. Because of the limited responsiveness of the Gates-MacGinitie Reading Test on such a short term experiment, the idea that cloze exercises can be useful in training reading comprehension skills is not ruled out. Therfore, future research studies could cover a much longer period of time in order to provide more significant results.

The results of this study do show that the recall of the experimental group was significantly better than that of the control group. Such differences suggest that use of cloze exercises in that material which is important to be remembered is a good idea.

It was hypothesized that one reason the experimental group did so well on the social studies test was that the test was one which included exclusively detail questions focusing on answering such questions as who, what, where, when and why. The cloze exercises forced the students to attend so closely to the text that details were remembered more clearly by the experimental group than by the control group.

Furthermore, the cloze exercises forced the students to read the chapter carefully, rather than simply to skim the chapter to find the answer to a given question. For example, the students had to understand the chapter thoroughly, i.e., the sequence of events, cause and effect relationships and secession of leadership, to name but a few concepts to be understood, in order to fill in the blanks. This same kind of understanding was not required of students who simply had to answer questions at the end of the chapter.

Finally, of equal importance is the fact that the students tired of cloze exercises after several of them in a row. It thus seems that the prudent thing to do is to use cloze exercises judiciously, alternating them with several other methods of teaching.

With regard to further research, it was noted earlier that an experiment of longer duration could produce more valid and significant results. Likewise, using larger samples for the study might bring about stronger results.

With regard to the selection of measuring instruments, the Gates-MacGinitie Reading Test uses a technique which is really an adapted cloze procedure. Possibly, a standardized test which includes longer passages, for example the reading section of the California Achievement Test, and which tests for details as well as main ideas might have greater content validity for this type of study. Also, the vocabulary section of the Gates-MacGinitie Reading Test presents vocabulary in isolation, but the cloze procedure relies heavily on context. A standardized test where vocabulary items were used in context might produce more dependable results.

With regard to presentation of the cloze procedure, the present study has brought forth a number of ideas which suggest directions for future research.

First, it would be of interest to have a number of experimental situations in which the differential effects of varying syntactical deletions might be observed. During the progression of this study, it was observed that the kinds of deletions made had an important effect on the interest level of the students. Finding out just what combination of word class deletions produced the greatest interest and the best recall would be useful in the development of instructional materials.

Also, the effects of using the cloze procedure might be clarified, if cloze training were done with different age and grade levels. For instance, this kind of experimentation could yield ideas regarding when beginning the use of the cloze procedure would produce positive results and when delaying the use of the cloze procedure would be indicated.

Presenting the cloze procedure in different subject areas where reading for details is required might also be a future direction in which to direct research. Such research could have significant implications for future instructional uses of the cloze procedure.

Deleting words which require the reader to use high order reading skills is another possibility to explore with regard to future research. For example, it was noted in the study that deletions requiring the students to make inferences or to determine such relationships as cause and effect, were found to be more interesting and fun for students to attempt than filling in those blanks in which a noun determiner had been deleted. This motivational effect could be important both with regard to developing instructional materials and to improving teaching strategies.

Finally, of interest to the investigator is the effect that forced cloze exercises might have on the student's reading comprehension and recall.

REFERENCES

Artley, A. S. Teaching word meaning through context. *Elementary English Review*, 1943, *20*, 73-76.

Bloomer, R. H. The cloze procedure as a remedial reading exercise. *Journal of Developmental Reading*, 1962, *5*, 173-181.

Bloomer, R. H. The effects of non-overt reinforced cloze procedure upon reading comprehension. In G. B. Schick and M. M. May (Eds.), *Fifteenth Yearbook of the National Reading Conference*. Milwaukee: National Reading Conference, Inc., 1966.

Bortnick, R., & Lopardo, G. *The case for cloze in the classroom*. California: University of California, 1971. (ERIC Document Reproduction Service, No. ED 094 327)

Bortnick, R., & Lopardo, G. S. An instructional application of the cloze procedure. *Journal of Reading*, 1973, *16*(4), 296-300.

Buros, Oscar Krisen (Ed.). *The seventh mental measurements yearbook* (Vol. II). Highland Park, N.J.: The Gryphon Press, 1972.

Carroll, J. B. A psycholinguistic analysis of reading behavior. In A. J. Harris and E. R. Sipay (Eds.), *Readings on reading instruction*. New York: David McKay Co., Inc., 1972.

Cranney, A. G., Bloomer, R., Rankin, E., Weaver, W., Brown, E., & Greene, F. P. Cloze symposium. In G. B. Schick and M. M. May (Eds.), *Sixteenth Yearbook of the National Reading Conference*. Milwaukee: National Reading Association, 1967.

Culhane, J. W. The use of an iterative research process to study the adaptation of cloze for improving the reading comprehension of expository materials (Doctoral dissertation, Syracuse University, 1972). *Dissertation Abstracts*, 1972, *32*, 997-A.

Eibling, H. H., King, F. M., & Harlow, J. *Our beginnings in the old world.* River Forest, Ill.: Laidlaw Brothers, 1957.

Ellington, B. J. Evaluation of the cloze procedure as a teaching device for improving reading comprehension (Doctoral dissertation, University of Georgia). *Dissertation Abstracts*, 1973, *33*, 5031A.

Fry, Edward. Readability formula that saves time. *Journal of Reading*. 1968, 513-516, 575-578.

Garrett, H. E. *Statistics in psychology and education.* New York: Longmans, Green and Co., 1958.

Green, R. T. Ten information sources on comprehension in reading. *Journal of Reading*, 1972, *6*, 55-57.

Hafner, L. E. Implications of cloze. In E. L. Thurston & L. E. Hafner (Eds.), *Fourteenth Yearbook of the National Reading Conference.* Milwaukee, National Reading Conference, 1965.

Hafner, L. E. A one-month experiment in teaching context aids in fifth grade. *Journal of Educational Research*, 1965, *58*, 472-474.

Harris, A. A., & Sipay, E. R. *How to increase reading ability* (6th ed.). New York: David McKay Company, Inc., 1975.

Heilman, A. W. *Principles and practices of teaching reading.* Columbus, Ohio: Charles E. Merrill Publishing Company, 1972.

Heitzman, A. J., & Bloomer, R. H. The effect of non-overt reinforced cloze procedure upon reading comprehension. *Journal of Reading*, 1967, 213-223.

Holmes, J. A. The substrata-factor of reading: Some experimental evidence. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and processes of reading.* Newark, Del.: International Reading Association, 1970.

Jongsma, E. *The cloze procedure as a teaching technique.* Bloomington, Ind.: Indiana University, 1971. (ERIC Document Reproduction Service, No. ED 055 253)

Kennedy. D. The cloze procedure. *Instructor*, November 1974, 82.

Kennedy, D. K., & Weener, P. Visual and auditory training with the cloze procedure to improve reading and listening comprehension. Reading Research Quarterly, 1973, 8, 524-541.

McCullough, C. Context aids in reading. The Reading Teacher, 1958, 11, 299-301.

Minium, E. W. Statistical reasoning in psychology and education. New York: John Wiley and Sons, Inc., 1970.

Quealy, R. J. Senior high school students use of contextual aids in reading. Reading Research Quarterly, 1969, 512-533.

Rankin, Jr., E. F. The cloze procedure - a survey of research. In E. L. Thurston & L. E. Hafner (Eds.), Fourteenth Yearbook of the National Reading Conference. Milwaukee: National Reading Conference, Inc., 1965.

Rankin, E. An interview with . . . Journal of Reading, 1969, 575-580.

Rankin, E. F., & Overholser, B. M. Reaction of intermediate grade children to contextual clues. Journal of Reading Behavior, 1969, 50-73.

Robinson, R. D. An introduction to the cloze procedure. An Annotated Bibliography. Ramon Ross (Ed.). Newark, Del.: International Reading Association, 1972.

Rupley, W. H. Eric RCS. Journal of Reading, 1973, 16, 496-503.

Rynders, P. Use of the cloze procedure to develop comprehension skill in the intermediate grades (Doctoral dissertation, Syracuse University, 1971). Dissertation Abstracts, 1971, 31, 5676A.

Schell, L. M. Promising possibilities for improving comprehension. Journal of Reading, 1972, 15, 415-424.

Schneyer, J. W. Use of cloze procedure for improving reading comprehension. The Reading Teacher, 1965, 19(3), 174-179.

Smith, E. L. *Use of the cloze procedure in improving comprehension of junior college readers.* Paper presented at the National Reading Conference, Atlanta, Georgia, December 1969.

Social Science Staff of the Educational Research Council of America. *Medieval civilization.* Boston: Allyn and Bacon, Inc., 1971.

Steiner, R., Weiner, M., & Cromer, W. Comprehension training and identification for poor and good readers. *Journal of Educational Psychology,* 1971, *62*, 506-513.

Stoodt, B. D. The relationship between understanding grammatical conjunctions and reading comprehension. *Elementary English*, 1972, *49*, 502-504.

Taylor, W. L. Cloze procedure: A new tool for measuring readability. *Journalism Quarterly,* 1953, *30*, 415-433.

U. S. Bureau of the Census. *Census of population: 1970* (Vol. 1, Characteristics of the population, part 32, New Jersey--Section 1). Washington, D.C.: U. S. Government Printing Office, 1973.

Wardrop, J. L., & Essex, D. L. Vexing problems revisited: Pitfalls for the unwary researcher (A reaction to Kennedy and Weener). *Reading Research Quarterly*, 1973, *8*, 542-557.

Weaver, W. W. Theoretical aspects of the cloze procedure. In E. L. Thurston & L. E. Hafner (Eds.), *Fourteenth Yearbook of the National Reading Conference*. Milwaukee: National Reading Conference, Inc., 1965.

Weaver, W. W., Kingston, A. J., & Dinnan, J. A. Vertical and horizontal constraints in the context reading of sentences. *Journal of Reading Behavior*, 1971, *3*, 39-43.

Williamson, J. E. Context clues used by sixth grade readers expository and narrative discourse. (Doctoral dissertation, University of Arizona, 1972). *Dissertation Abstracts*, 1972, *32*, 2827-A.

APPENDIX A

SUPPLEMENTARY TABLES

TABLE A

RAW SCORES OF EXPERIMENTAL AND CONTROL GROUPS ON THE LORGE-THORNDIKE COGNITIVE ABILITIES TEST*

Control Group				Experimental Group			
Subject	Verbal	Quantitative	Non-Verbal	Subject	Verbal	Quantitative	Non-Verbal
1	115	122	104	1	113	110	104
2	119	129	103	2	113	116	108
3	93	80	94	3	86	93	96
4	113	100	99	4	103	101	104
5	80	75	97	5	94	89	87
6	112	124	115	6	113	113	112
7	109	137	116	7	93	89	97
8	129	100	108	8	90	98	97
9	106	108	97	9	99	79	87
10	112	127	102	10	119	127	101
11	128	112	124	11	120	103	101
12	108	100	112	12	105	104	90
13	115	110	128	13	89	85	94
14	86	87	105	14	115	104	110
15	94	78	87	15	136	118	114
16	101	106	104	16	97	104	102
17	107	107	102	17	95	98	99
18	102	105	103	18	112	112	98
19	117	126	115	19	129	125	118
20	124	117	123	20	108	109	100
21	104	109	94	21	112	111	117

*Intelligence Quotient Scores

TABLE B

PRE- AND POST- RAW SCORES ON VOCABULARY AND COMPREHENSION SUBTESTS FOR EXPERIMENTAL AND CONTROL GROUPS ON THE GATES-MacGINITIE READING TEST, D, FORMS 2 AND 3

Control Group					Experimental Group				
Subject	Vocabulary		Comprehension		Subject	Vocabulary		Comprehension	
	Pre-	Post-	Pre-	Post-		Pre-	Post-	Pre-	Post-
1	41	35	46	50	1	35	37	44	36
2	42	41	49	48	2	39	39	45	42
3	21	37	33	28	3	27	36	25	44
4	32	39	46	43	4	28	26	38	36
5	20	24	19	32	5	37	29	31	38
6	36	38	41	48	6	28	32	43	43
7	35	29	44	47	7	29	26	29	23
8	40	41	44	48	8	28	38	43	40
9	30	31	36	33	9	36	38	40	42
10	33	41	44	51	10	42	42	45	48
11	37	41	42	49	11	34	41	47	47
12	38	35	33	37	12	38	38	46	50
13	43	42	50	48	13	34	32	31	27
14	21	14	17	10	14	39	32	45	46
15	24	30	26	43	15	42	43	49	47
16	27	26	37	33	16	32	33	33	23
17	34	30	44	44	17	30	37	35	42
18	34	32	45	43	18	39	42	43	44
19	40	35	44	47	19	46	43	50	49
20	36	39	42	50	20	45	40	47	47
21	41	38	46	49	11	39	42	46	44

TABLE C

PRE- AND POST- RAW SCORES OF EXPERIMENTAL AND CONTROL GROUPS ON 51 ITEM EXPERIMENTER-WRITTEN CLOZE TESTS (MECHANICAL DELETION)

Control Group			Experimental Group		
Subject	Pre-	Post-	Subject	Pre-	Post-
1	18	37	1	16	12
2	15	22	2	15	15
3	10	9	3	18	17
4	19	15	4	10	8
5	7	3	5	20	9
6	19	37	6	16	13
7	10	17	7	8	13
8	18	22	8	10	13
9	10	12	9	15	11
10	18	18	10	16	19
11	11	20	11	14	18
12	13	27	12	20	18
13	21	21	13	18	14
14	5	8	14	8	16
15	13	9	15	12	19
16	16	12	16	17	13
17	14	17	17	9	17
18	11	7	18	13	18
19	16	22	19	20	22
20	14	16	20	22	17
21	11	19	21	15	15

TABLE D

PERCENTAGE SCORES OF EXPERIMENTAL AND CONTROL GROUPS ON RECALL TEST OVER SOCIAL STUDIES UNIT

Control Group			Experimental Group		
Subject	Unit Test Percentage Score	Raw Scores (36 possible)	Subject	Unit Test Percentage Score	Raw Scores (36 possible)
1	97	35	1	96	35
2	94	33	2	97	35
3	1	4	3	85	31
4	67	24	4	94	33
5	67	24	5	55	20
6	97	35	6	94	33
7	64	23	7	94	33
8	94	33	8	100	36
9	31	11	9	64	24
10	40	15	10	91	33
11	79	29	11	100	36
12	97	35	12	82	30
13	1	4	13	92	33
14	55	20	14	67	24
15	97	35	15	100	36
16	100	36	16	94	33
17	40	15	17	93	33
18	94	33	18	100	36
19	55	20	19	100	36
20	64	23	20	100	36
21	76	28	21	100	36

APPENDIX B

STANDARDIZED READING TESTS

GATES-MacGINITIE READING TEST, D, FORMS 2 AND 3

(Tests removed due to copyright restrictions)

APPENDIX C

INFORMAL TESTS

EXPERIMENTER-WRITTEN CLOZE TESTS, A AND B

ANSWER SHEETS FOR CLOZE TESTS, A AND B

SOCIAL STUDIES UNIT TEST,
WRITTEN BY AUTHORS
OF SOCIAL STUDIES TEXT

ANSWER SHEET FOR SOCIAL STUDIES UNIT TEST

CLOZE TEST A

BUILDING A MEDIEVAL TOWN

AN EARLY EXCHANGE OF GOODS. Our guide takes us to an inn for luncheon. He invites the head __________ (1) the town council to __________ (2) with us.

"What made Clarleroi __________ (3) so big?" we ask.

"__________ (4) are several reasons," the councilman __________ (5). "We first began to __________ (6) under an old lord __________ (7) Charleson. He wanted good __________ (8) to serve his family. __________ (9) got quite a few __________ (10) to settle on his __________ (11). Long before the Crusades __________ (12) had craftsmen of different __________ (13) in the old serfs' __________ (14).

"These craftsmen began the __________ (15) market you saw this __________ (16). On Saturday afternoons both __________ (17) and farmers brought anything __________ (18) had for exchange to __________ (19) open place in the __________ (20). They spread their things __________ (21) the ground."

VALUE OF A GOOD LOCATION. "Our good __________ (22) also helped Charleroi grow. __________ (23) river is deep enough __________ (24) good-sized boats. Down the __________ (25) is a larger city. __________ (26) traders used to sail __________ (27) us. Then one day __________ (28) trader in iron tools __________ (29) tinware tied up at __________ (30) little pier. While one __________ (31) our carpenters repaired his __________ (32), the man traded with __________ (33) craftsmen and the lord __________ (34) the manor. He went __________ (35) with a boatload of __________ (36) products. These he sold __________ (37) his home city. After __________ (38) he came often."

"__________ (39) merchants and traders began __________ (40) attend our markets. We __________ (41) a better pier on __________ (42) river. We made stalls __________ (43) the square. One market __________ (44) a pack train came __________ (45) our old road. The __________ (46) urged the man to __________ (47) a stall at our __________ (48). He sold so many __________ (49) that he came often. __________ (50) water and land we __________ (51) receiving goods from other __________ (52). These were exchanged for __________ (53) products."

PEACE HELPS TRADE. Archer speaks up. "__________ (54) of these merchants settled __________ (55) Charleroi. This inn was built to take care of our many visitors."

CLOZE TEST B

THE GROWTH OF TRADE IN EUROPE

THE DECLINE OF TRADE. You have read how the barbarians and Vikings destroyed most of the towns in Europe during the Dark Ages. They also destroyed trade. __________ (1) was no longer safe __________ (2) a trader to travel __________ (3) roads or rivers. He __________ (4) be robbed of his __________ (5) almost anywhere. There were __________ (6) robbers on the seas.

__________ (7) people turned to feudal __________ (8) to protect them, the __________ (9) brought some order to Europe, __________ (10) they did not help __________ (11). Instead, many a lord __________ (12) guards at roads and __________ (13) on his lands. Here __________ (14) collected a fee from __________ (15) trader who crossed his __________ (16).

Trade was also held __________ (17) because there was no __________ (18) way to send letters __________ (19) low cost. The mail __________ (20) of the Roman Empire __________ (21) gone. A merchant could __________ (22) little business by letter.

TRADE INCREASES. __________ (23) the Viking raids of __________ (24) ninth century were over, __________ (25) western Europe was more __________ (26), trade began to grow __________ (27). The last chapter showed __________ (28) how this took place __________ (29) many a serfs' village.

__________ (30) craftsmen sold their extra __________ (31), more boys were trained __________ (32) craftsmen. Villages grew into __________ (33). People in the neighborhood __________ (34) into town on market __________ (35) to buy goods and __________ (36) sell their farm products. __________ (37) carried town goods to __________ (38) places far and wide. __________ (39) brought back raw materials __________ (40) by the craftsmen.

A MERCHANT'S TOWN. Another __________ (41) of town also grew __________ (42) in many places. In __________ (43) where there was feudalism, __________ (44) town belonged to the __________ (45) on whose land it __________ (46) located. Anyone settling there __________ (47) a serf. He could __________ (48) leave the land unless __________ (49) lord agreed. He was __________ (50) to spend his time __________ (51) for the lord. He could own only what the lord allowed him to.

ANSWER SHEET - CLOZE TEST A

1. of
2. eat
3. grow
4. There
5. says
6. grow
7. of
8. craftsmen
9. He
10. freemen
11. manor
12. we
13. Kinds
14. village
15. public
16. morning
17. craftsmen
18. they
19. an
20. village
21. on
22. location
23. Our
24. for
25. river
26. Its
27. past
28. a
29. and
30. our
31. of
32. boat
33. our
34. of
35. away
36. our
37. in
38. that
39. Other
40. to
41. built
42. the
43. for
44. day
45. down
46. gatekeeper
47. take
48. market
49. spices
50. By
51. were

ANSWER SHEET - CLOZE TEST B

1. It
2. for
3. on
4. might
5. goods
6. even
7. After
8. lords
9. lords
10. but
11. traders
12. put
13. rivers
14. he
15. any
16. land
17. up
18. good
19. at
20. service
21. was
22. do
23. After
24. the
25. and
26. peaceful
27. again
28. you
29. in
30. As
31. goods
32. as
33. towns
34. came
35. days
36. to
37. Traders
38. other
39. They
40. needed
41. kind
42. up
43. countries
44. a
45. lord
46. was
47. became
48. not
49. the
50. expected
51. working

THE MIDDLE AGES

I. Complete the sentences below by writing words in the blanks which will make the sentences correct.

1. Much of modern France was once called __________.

2. Arabs reckon time as before and after Mohammed's flight from __________.

3. The advice and sayings of Mohammed were put together into a little book called the __________.

4. __________ led the Franks to victory at Tours.

5. Conquered tribes paid Charlemagne a certain amount of goods each year. This was called __________.

6. When people turned to powerful nobles for protection against barbarians, a new way of life developed called __________.

7. Feudalism lasted some __________ years.

8. Boys of the Middle Ages who proved to be good pages and squires went through a ceremony called __________ at age 21.

9. A serf could gain freedom by becoming a monk or a priest, or by hiding himself for __________.

10. __________ had Roman laws gathered and organized into a code. This code later influenced the making of laws in America.

11. Those who promise to obey their abbott or abbess, and to give their lives to prayer and work, are called __________ and nuns.

12. The historians of the Middle Ages were __________.

II. Each word in the left hand column is the name of a person or thing listed in the right hand column. Beside each word in the right hand column write the number of a word in the left hand column.

1. Islam
2. Pepin
3. Charlemagne
4. Fief
5. Manor
6. Moat
7. Donjon
8. Postern
9. Catapult
10. Abbot
11. Parchment

Charles the Great ( )
Feudal estate ( )
Secret gate of the castle ( )
Frankish king ( )
Tower of the castle ( )
Head of a monastery ( )
Moslem religion ( )
Ditch ( )
A machine that hurls stones ( )
Land of a vassal ( )
Sham battle ( )

III. In the blank following each sentence below write the word that tells what the sentence describes.

1. The Frankish king who, after winning an important battle, set an example for his people by being baptized a Christian. ________________

2. The cube-shaped temple that contained a small black meteorite and was surrounded by 360 idols.
____

3. Mohammed's name for God. ________________

4. The battle that stopped the spread of Mohammedanism into northern Europe. ________________

5. The city visited by Moslems at least once in their lifetime. ________________

6. The king who greatly enlarged and improved the Franklish kingdom and required all defeated people to be baptized as Christians. ________________

7. The people who raided, robbed, and brought terror to people of the Frankish kingdom. ________________

8. A person who gave loyalty and service to a lord in return for protection. ________________

9. A peasant who was bound to the land and gave services to his lord. ________________

10. The center of life on a feudal estate where the lord lived, ruled, and defended his land.

____

11. Handwritten books in which first letters and sometimes borders are made beautiful with gold, silver, and colored inks. _______________

12. A home for monks. _______________ A home for nuns. _______________

ANSWER SHEET FOR SOCIAL STUDIES UNIT TEST

THE MIDDLE AGES

I. Complete the sentence below by writing words in the blanks which will make the sentence correct.

1. Gaul
2. Mecca
3. the Koran
4. Charles, Mayor of the Palace at Cologne
5. Paying Tribute
6. Feudalism
7. 500 years
8. Knighting
9. a year and a day
10. Justinian
11. monks
12. monks

II. Each word in the left hand column is the name of a person or thing listed in the right hand column. Beside each word in the right hand column write the number of a word in the left hand column.

1. Islam
2. Pepin
3. Charlemagne
4. Feif
5. Manor
6. Moat
7. Donjon
8. Postern
9. Catapult
10. Tournament
11. Abbot
12. Parchment

Charles the Great (3)
Feudal estate (5)
Secret gate of the castle (8)
Frankish King (2)
Tower of the castle (7)
Head of a monastery (11)
Moslem religion (1)
Ditch (6)
A machine that hurls stones (9)
Writing material (12)
Land of a vassal (4)
Sham battle (10)

III. In the blank following each sentence below write the word that tells what the sentence describes.

1. Clovis
2. Kaaba
3. Allah
4. Battle of Tours
5. Mecca
6. Charlemagne
7. Northmen or Vikings
8. Vassal
9. Serf
10. Castle
11. Manuscripts or illuminated manuscripts
12. Monastery
    Convent

APPENDIX D

CLOZE TRAINING EXERCISES: EXAMPLES FROM UNIT IV "EUROPE IN THE MIDDLE AGES"

THE FRANKS AND MOHAMMEDANS

Chapter 13

THE FRANKS FOUND A NATION

NEW NEIGHBORS. In this chapter you will look at Western Europe as it was after 500 A.D. By that time the barbarian invasions were slowing down. Overrun by thousands of barbarians from hundreds of different tribes, many Roman houses, towns, and cities were burned and gone. Many Romans were dead.

The __________ (1) who remained were worried over who settled where. Now they must live with __________ (2) conquerors. Their children must grow up together. Would __________ (3) conquerors take on Roman ways and be decent neighbors? Or would they impose __________ (4) half-civilized ways upon the Romans?

THE EMPIRE IS SPLIT UP. The Roman __________ (5) was so vast that we paid little attention to __________ (6) many parts when we talked about the empire. But now __________ (7) Western Empire is no more. We must pin down smaller __________ (8) of territory and locate them in __________ (9) minds. Out of each one will come __________ (10) modern nation.

Our ancestors came to America from __________ (11) modern nations. Therefore, to understand each nation and __________ (12) people who came to America from it, we need to know what __________ (12) of people were there before __________ (13) Germanic tribes came. For example, much of modern __________ (14) France was once called __________ (15). What people lived in Gaul when the barbarians came? What had been __________ (16) history?

THE ROMANS CONQUER GAUL. Flash back to Gaul and Julius __________ (17). You will recall that Caesar got himself appointed __________ (18) of the Roman territory in southern Gaul around 58 B.C. As he gradually conquered __________ (19) Caesar took many Gauls into his __________ (20). With this powerful army he returned to Rome and took possession of __________ (21) government.

Caesar and other Roman leaders later spread __________ (22) control over all Gaul and made it part of the Roman __________ (23). The Gauls learned Roman __________ (24) from the Roman soldiers, governors, and others stationed in __________ (25). They dressed like Romans and began using parts of __________ (26) Latin language.

During the 300 years the __________ (27) governed Gaul they built cities, aqueducts, roads, and public buildings. __________ (28) Gauls became partly civilized.

BARBARIANS CONQUER GAUL. In the fifth century about __________ (29) time the Goths were invading Italy, different Germanic __________ (30) crossed Gaul. Some conquered parts of Gaul and settled in __________ (31) land.

Among the settlers with Goths, Burgundians (bur·gun'di·anz) and Franks. __________ (32) all the barbaric tribes the Franks were one of the strongest. __________ (33) men were brave warriors, tall and strong. __________ (34) they were killed in battle, they were buried fully armed. They wanted to be prepared __________ (35) battle at any time. Some of the __________ (36) armor has been found __________ (37) ancient cemeteries in the northern part of France.

One reason the __________ (38) were stronger than other tribes was that they did not give up __________ (39) homeland when they invaded the Roman Empire. __________ (40) they kept what territory they had and slowly extended it __________ (41) they controlled the Roman province of Gaul. In this way the __________ (42) gained a firmer hold on the territory __________ (43) they took than did the tribes who moved about __________ (44) place to place.

THE FRANKS FOUND A KINGDOM. One of __________ (45) early rulers of the Franks was named Clovis (klo'vis). It is thought __________ (46) was about ten years old when Rome was sacked by __________ (47) barbarians in 476. Five years later Clovis became a king of the __________ (48).

At that time, there were several Frankish kings. __________ (49) one was little more than chief __________ (50) his tribe. But Clovis wanted to make a real Frankish kingdom. __________ (51) he was twenty he marched against the Roman governor __________ (52) that part of Gaul and defeated him. Then, __________ (53) conquered one Germanic tribe after another __________ (54) he was master of all Gaul.

Clovis was a strong __________ (55). Under his rule the Franks became a united __________ (56). They learned from the Gauls, and from the Romans in Gaul, to live __________ (57) a more orderly way. After a time __________ (58) language was much like that of the Romans in some ways. __________ (59) land became the country we call __________ (60). The French language contains many words used by Gauls, Romans, __________ (61) Germans.

CHRISTIANITY AND THE FRANKS. Like most German barbarians, Clovis believed in the old German gods. __________ (62) wife was a Christian princess of Burgundy. She tried to persuade __________ (63) to accept Christian teachings. He said, "No!," __________ (64) he permitted his children to be baptized __________ (65) Christians.

There came a day when Clovis was faced with an important __________ (66) near the Rhine. Up to that point Clovis and __________ (67) men were not winning. It is said __________ (68) he prayed to Christ and the Christian God. He promised he would become __________ (69) Christian __________ (70) he won the battle.

Shortly after this the king of the tribe Clovis had been fighting was killed __________ (71) battle. __________ (72) troops gave up and surrendered to Clovis.

Clovis returned to __________ (73) kingdom and was baptized by the bishop at Reims (remz). His sister and 3,000 Frankish soldiers followed __________ (74) example. __________ (75) this other Franks also became Christians.

Clovis continued to enlarge his kingdom __________ (76) he died. Then his kingdom was divided __________ (77) his four sons. The sons and the rulers who followed them quarreled among themselves. __________ (78) a long time the __________ (79) were poorly governed. Then came another Frankish __________ (80) you will respect and enjoy knowing. His story will be told in the next chapter.

* * * * * * * *

What do you think Clovis could have done before he died that would have helped to keep the empire together?

* * * * * * * *

EUROPE IS INVADED AGAIN

OUT OF ASIA. While the Christian religion was being preached to the various tribes in Europe, a new religion was spreading throughout parts of Asia Minor and Africa. This new religion was based on the teachings of Mohammed (mo·ham'ed), a man from Arabia (a·ra'bi·a).

You heard of __________ (81) when we talked about Egyptian traders. You found __________ (82) these traders sailed down the Red Sea and traded __________ (83) the shores of the dry Arabian peninsula.

__________ (84) the days of Mohammed, the Arabs had no central government. Neither did they have __________ (85) single religion. The people were scattered in tribes __________ (86) the desert country. Each tribe had __________ (87) own religion.

A FAMOUS BLACK STONE. Among the few towns in Arabia was Mecca (mek'a), the birthplace of Mohammed. __________ (88) was a trading center near the Red Sea. __________ (89) carrying goods between the West and Far East usually paused there.

__________ (90) Arabs thought of __________ (91) as a holy place. In the city was a cube-shaped temple called the Kaaba (ka'ba). __________ (92) contained a small black stone, a meteorite which had fallen __________ (93) the sky. Around the Kaaba were __________ (94) idols, one for each day of the year __________ (95) the ancient Arabian calendar. These idols were worshipped by many Arabs.

EARLY LIFE OF MOHAMMED. Mohammed was born __________ (96) Mecca in 570, __________ (97) about 1,400 years ago. Little is known of __________ (98) childhood except that he was poor. After his parents died, he lived __________ (99) his grandfather and then with an uncle.

Mohammed became a camel driver. He went __________ (100) caravans on long trips through __________ (101) and other countries. On these trips he learned of the many gods and __________ (102) of different peoples. He thought __________ (103) the things he was __________ (104) heard.

Mohammed married a wealthy widow and became a merchant. He had charge of his wife's camel caravans __________ (105) they carried goods __________ (106) place to place. During his journeys Mohammed talked __________ (107) Jews and Christians. He heard about the worship __________ (108) one God. He heard, too, about all men being brothers.

* * * * * * * *

What ways do we have today for learning what others believe or think? How do these differ from the way Mohammed learned what other people believed?

* * * * * * * *

HIS BELIEFS ARE SHAPED. Mohammed came to feel that __________ (109) worship of one God was better than __________ (110) Arabian belief in idols. He became convinced __________ (111) there must be one true God.

Mohammed was __________ (112) forty years old when he said he had seen __________ (113) vision while along at prayer. According to his story __________ (114) angel appeared and told him to preach one God __________ (115) the world. Mohammed's name for God was Allah (al'a).

When Mohammed told his wife of __________ (116) vision, she said, "It must be true, __________ (117), you are such a good and kindly man." She urged him to begin preaching __________ (118) new faith to others. She __________ (119) Mohammed's uncle became his first helpers.

MOHAMMED IS PERSECUTED. Mohammed did not find many people __________ (120) would accept his new beliefs __________ (121) religion. Most of the people in Mecca laughed __________ (122) him, much as others had laughed at Jesus.

Many Meccans made __________ (123) living taking care of the people who came to Mecca to worship at the __________ (124). They realized that __________ (125) Mohammed's teaching caught on and people stopped coming __________ (126) the Kaaba, they would have to find new jobs. They persecuted Mohammed __________ (127) his little group of followers.

* * * * * * *

When you "pick on" someone because of his beliefs, is that a sign that you are afraid of what his beliefs will do to you or your affairs?

* * * * * * *

MOHAMMED LEAVES MECCA. __________ (128) Mohammed was fifty years old, his wife and uncle died. Shortly after that __________ (129) people of Mecca forced Mohammed to flee to Medina (ma·de'na), __________ (130) near-by town. This event turned out to be a step forward __________ (131) Mohammed.

Medina people were more friendly toward Mohammed and __________ (132) religious thinking than Meccans had been. __________ (133) new religion spread and he was made king __________ (134) Medina. Shortly thereafter he returned to Mecca __________ (135) captured the city of his birth. He removed many of the pagan idols __________ (136) the Kaaba, but left the small black stone. To __________ (137) day the Kaaba is visited by many Mohammedans __________ (138) year. Mohammed urged every faithful follower to make at least one visit __________ (139) Mecca during his lifetime.

__________ (140) flight to Medina was a turning point in Mohammed's ministry. To honor __________ (141) event the Arabs reckon time __________ (142) that date, just as Christians reckon time as before __________ (143) after the birth of Jesus.

MOHAMMED'S TEACHINGS. Mohammed named his religion Islam (is'lam), __________ (144) many Europeans call it Mohammedanism. Those who believe in __________ (145) teachings are called Moslems or Mohammedans.

During Mohammed's lifetime __________ (146) followers wrote down things their leader said. These sayings were gathered together into a little book called __________ (147) Koran (ko·ran'). The __________ (148) tells Moslems to give themselves to prayer __________ (149) to helping others. The book is to Moslems what the Bible is to Christians

__________ (150) the Old Testament is to Jewish people. __________ (151) is said that many Moslems know the Koran by heart.

THE CONQUEST OF ISLAM. Jesus had taught that disciples should tell others __________ (152) his teachings, heal the sick, __________ (153) help people to stop sinning. People could then accept __________ (154) reject his teachings as they saw fit.

Mohammed taught __________ (155) Moslems that it was their duty to go out __________ (156) make other people accept Islam. Any man who died battling for __________ (157) faith would go to paradise, he said.

MOHAMMEDANISM SPREADS. For this reason Moslems were eager to fight for __________ (158) religion. In the name __________ (159) Allah they set out to conquer the world. Gradually they took much __________ (160) western Asia. __________ (161) fighting as they went, they conquered Egypt and the rest of northern Africa.

From Africa, the Moslems crossed __________ (162) Spain. Within __________ (163) few years they had overcome the people living there and spread Mohammedanism north __________ (164) the Pyrenees (pir'e·nez) Mountains. __________ (165) a while it seemed that they would overrun all Europe. __________ (166), in the Christian Franks, beyond the Pyrenees, they found __________ (167) powerful enemy.

AN IMPORTANT BATTLE. Near the city of Tours (toor) in __________ (168) year 732, a hundred years after the death of Mohammed, __________ (169) Moslems were defeated by the Franks. This battle is often considered one of __________ (170) important battles of the world. It changed __________ (171) course of history. It stopped the Moslems from taking __________ (172) faith into northern Europe. Europe remained free to accept Christianity. __________ (173) Franks were left free to build up __________ (174) great kingdom.

The Franks were led to victory __________ (175) Tours by Charles, Mayor of the Palace at Cologne (ko·lon'). __________ (176) defeat of the Moslems made him famous. Because of __________ (177) bravery and boldness in fighting the enemy, he was called Charles Martel (mar'tel), __________ (178) Charles the Hammer.

After their defeat __________ (179) Tours, the Mohammedans were forced to fall back __________ (180) Spain. But they had spread their religion far and wide. They had carried it more than half-way around __________ (181) shores __________ (182) the Mediterranean Sea. To be sure, they had failed to take Constantinople, __________ (183) they had conquered other famous cities such as Antioch (an'ti·ok), Jerusalem (je·roo'sa·lem), __________ (184) Alexandria. The map on this page shows the land they overran.

* * * * * * *

Down through the ages, what kind of ideas or beliefs in men's minds have kept them from being conquered?

* * * * * * *

THE ARABS LEARNED FAST. The Arabs of Mohammed's time had little learning __________ (185) culture. They did have good minds. __________ (186) they set out to carry Islam __________ (187) the world, they learned fast. Remember they were conquering old civilizations __________ (188) which were vast stores of learning. __________ (189) Moslems were quick to learn from the people they conquered. __________ (190) the barbarians who destroyed what they did not appreciate, __________ (191) Moslems saved the good things they found. Then they shared them __________ (192) other peoples.

The Arabs established a high type __________ (193) civilization in Mesopotamia (mes'o·po·ta'mi·a), Persia, Palestine, North Africa, __________ (194) Spain. In doing so they passed on many fine things __________ (195) finally reached the world in which we live today. We will sum up __________ (196) gifts when we study Spain.

ALI BABA AND ALADDIN. On the bank of __________ (197) Tigris River, the Arabs built __________ (198) splended city called Bagdad (bag'dad). In a short time Bagdad became famous __________ (199) its wealth, beauty, and learning. After awhile it became the rival of Constantinople

__________ (200) the richest and most beautiful city __________ (201) the world.

Perhaps you have read __________ (202) tales as "Ali Baba and the Forty Thieves," "Aladdin __________ (203) His Wonderful Lamp," and "Sinbad the Sailor." If so, you have __________ (204) idea of how some people __________ (205) Bagdad lived and thought long ago.

SUMMING UP. Among the barbarians __________ (206) overran the Roman world were the Franks. They lived near the mouth __________ (207) the Rhine River. By fighting, they extended __________ (208) territory until it included what is now France. In time the Franks were united __________ (209) a great chieftain, __________ (210), who led them to accept Christianity.

In the land of the Franks came an army __________ (211) Moslems. These invaders had accepted __________ (212) religious beliefs of a teacher named Mohammed. The Moslems had already spread __________ (213) religion, Islam, throughout much of the world.

__________ (214) the Moslems tried to take the land of the Franks, they were stopped __________ (215) Charles Martel at the battle of __________ (216). This was one of the important battles __________ (217) the world becuase it kept Islam from spreading __________ (218) northern Europe. As a result, Europe became a Christian continent rather than Mohammedan.

In the chapter following, you will find the story of a great leader who hoped to rebuild the Roman Empire.

LIFE IN THE MIDDLE AGES

Chapter 15

THE FEUDAL SYSTEM

The Age of Feudalism. Motion pictures and books of fiction have shown you the exciting side of castle life. If someone speaks of a knight, you probably picture him in a coat of steel--astride a great war horse.

Castle life was one part of __________ (1) historical period known as the Age of Feudalism. __________ (2) lasted some 500 years, or from about 800 to 1300. During that __________ (3) the Frankish empire of Charlemagne was divided __________ (4) great estates. People spoke Latin and German or __________ (5) form of these languages. People did not think of themselves __________ (6) citizens of any certain country until strong kings arose __________ (7) modern nations began to take shape.

Feudalism grew up __________ (8) different times and __________ (9) different ways. Some sections of Europe never had it. __________ (10) you imagine a visit to a feudal estate toward the end of the __________ (11) period, you can see the main customs that set feudal life __________ (12) from the kind of life you lead today.

The Dark Ages. We have come __________ (13) Charleson, the __________ (14) of a noble named Sir Francis. We are met by the castle chaplain, Father Jerome.

"Will you bring __________ (15) up to date, Father Jerome?" we ask. "__________ (16) last event we know about is the fact __________ (17) the Frankish kings who followed Charlemagne were __________ (18) weak to preserve the empire."

Our young host is thoughtful for a few minutes. __________ (19) he says, "Around us __________ (20) great darkness and misery. But we are better off than were the people __________ (21) lived through the Dark Ages. __________ (22) Dark Ages extended from about 500 A.D. to 1000. __________ (23) that time the light of civilization went out in many places. __________ (24) Frankland we kept it alive __________ (25) monasteries and churches."

"But why did the light of progress go out," we ask.

"Why? __________ (26) the barbarians overran Europe for centuries. For awhile Charlemagne __________ (27) the Pope tried to build a Christian empire. __________ (28) and there men came out __________ (29) barbarism into civilized ways. Many became Christians. It looked as though we might even restore __________ (30) Roman Empire of the West some day.

some day.

"__________ (31) Charlemagne did not live long enough to do that. __________ (32) death acted like a signal to let loose the powers __________ (33) evil. The wild barbarians of the North __________ (34) Europe. They destroyed our towns __________ (35) plundered the land. So did robbers and outlaws. Barbaric chieftains waged war __________ (36) war. Nowhere in all our empire did government have __________ (37) army strong enough to protect the people."

The Background of Feudalism. Father Jerome is interrupted by Sir Francis. Turning __________ (38) us, he asks, "And what have you learned __________ (39) castle life by this time?"

We explain that we want __________ (40) understand certain things before we tour the castle. __________ (41) of all what kind of government developed __________ (42) the kings were no longer able __________ (43) protect the people?

"I suppose you know the early history of Frankland," Sir Francis says, seating himself __________ (44) a talk. "Do you remember Charlemagne's nobles? __________ (45) recognized Charlemagne as __________ (46) king, but they did not come under the counts and inspectors. They ruled their estates as they saw fit.

"However, in return for __________ (47) land, the nobles promised to serve the king loyally. They supplied him __________ (48) a certain number of soldiers, and gave him money __________ (49) certain occasions--for example when his __________ (50) was being married, or his son was becoming a knight. __________ (51) nobles were known as vassals of the king. __________ (52) lands they received from the kingdom __________ (53) called fiefs or feudums. The vassal had __________ (54) use of the land during his lifetime. Upon his death, __________ (55) oldest son received the fief with the same privileges __________ (56) obligations.

"One of my ancestors was such a vassal. __________ (57) received the land around Charleson from Charlemagne. That is how the estate got __________ (58) name."

Frankish Blockhouses. "When the Northmen invaded the land, __________ (59) ancestors decided they must defend themselves. They scooped __________ (60) dirt out of a wide circle into a mound. __________ (61) filled the ditch with water and made a fence around the inside. __________ (62) was their fort. Later they built __________ (63) blockhouse on the mound of earth.

"Much later, __________ (64) disorder still continued in Frankland, my father began __________ (65) present castle on another part of the estate. I have continued the work."

Feudalism Is Born. "One __________ (66) my ancestors divided part of the estate __________ (67) fiefs. He gave two of them to lesser nobles. In line with __________ (68) agreement my early ancestor had made with Charlemagne,

__________ (69) two fief holders agreed __________ (70) furnish soldiers and pay money on certain occasions to my ancestor. __________ (71) way the Count of Charleson could protect Charleson against invaders, robbers, and outlaws with the help of __________ (72) vassals.

"When the disorders continued, landowners such as my ancestors __________ (73) the only ones who __________ (74) power enough to defend themselves, their families, and __________ (75) vassals' families. It was but natural __________ (76) people on nearby farms and villages should turn to __________ (77) Count of Charleson for protection, too.

"One day a small landowner came to the Count and said, 'I cannot defend __________ (78) family against these robber bands. I'll give you __________ (79) farm if you will let us go to __________ (80) house when invaders come.'

"The Count agreed. __________ (81) made the small landowner __________ (82) vassal, but since the man had no money or soldiers, he became __________ (83) servant in the County's household. He was still __________ (84) freeman, but he had taken an oath to serve __________ (85) ancestor until death. After that, more small landowners became my ancestor's vassals."

Some Men Become Serfs. "Men __________ (86) had no came seeking protection, too. The old Count made __________ (87) latter promise to serve him as long __________ (83) they lived. In return he __________ (89) them and saw that they were housed, fed, and clothed. __________ (90) people who had only their services to offer __________ (91) called serfs.

"In this way the Count got plenty of help on the estate, __________ (92) manor as we call it. __________ (93) serfs were freemen, but most of them became bound to the land.

"__________ (94) banding together for protection grew into __________ (95) way of life we call feudalism. It developed __________ (96) a defense against barbarians and disorderly people."

Ideas Behind the System. "Let us sum up __________ (97) main ideas which lie behind the customs __________ (98) feudalism. First is __________ (99) ownership of property. All of an estate or manor is held by one __________ (100). He may be a king, a noble, or a churchman. __________ (101) vassal receives a fief to live on and use for life. He can leave the __________ (102) to his son.

"Second, the lord of the manor and __________ (103) vassal promise to do certain things for each other. __________ (104) vassal serves the lord, provides soldiers, and sometimes helps with money. __________ (105) turn, the lord protects the __________ (106).

"Third, the idea in feudalism which makes it a kind __________ (107) government is that the noble must __________ (108) law and order. Therefore, the noble has authority over all the people __________ (109) live on his land. __________ (110) commands the soldiers provided by his vassals. He tries disputes between __________ (111) vassals. He collects money (taxes) and even coins money. He decided __________ (112) a serf may marry, leave the land, __________ (113) become a freeman. In a way, a lord rules his manor much as __________ (114) king would. If he didn't have __________ (115) power, how could he protect so many people?

"I think you will understand some of these ideas better when you see the estate. I'll have Carl take you out on the wall of the castle. From there you can see how the manor is laid out."

LIFE IN A CASTLE

The Manor. Sir Francis turns us over to an old soldier. "Carl has been here a long time and can answer most of your questions," he said as he leaves us. "I hope you like our castle."

We gasp with amazement as we step out __________ (116) the wall. __________ (117) castle is located high on a rocky cliff. It commands __________ (118) view of the countryside for miles around.

"Farming became __________ (119) main occupation in Europe after the Viking __________ (120)," Carl remarks. "So many towns were destroyed that little, if any, business or industry was carried on. Land __________ (121) the only form of wealth."

__________ (122) fields first catch our eyes because of the pattern they make. __________ (123) are divided into strips. "The farmlands on the manor are cultivated __________ (124) the serfs, or peasants," Carl says. "__________ (125) peasant has the right to cultivate __________ (126) certain number of strips on different parts of __________ (127) manor. That is why the fields make such patterns."

Beside __________ (128) fields are pasture lands in which farm animals graze. They are kept __________ (129) the castle so __________ (130) cattle will not be stolen easily, we are told.

"Each manor has __________ (131) large woodland, too," Carl points out. "There the people gather dead trees __________ (132) firewood. Over there is the village where __________ (133) serfs live. In between the village and the castle is __________ (134) mill for grinding grain. Sir Francis says __________ (135) manor and its workers must produce most of __________ (136) food, clothing, and tools needed and used here."

The Castle. "The castle is __________ (137) center of life on a feudal estate. It is planned like __________ (138) fort for defense. It is here that the lord lives, rules, __________ (139) defends his land."

Carl explains that __________ (140) castles are built on hills difficult to climb. __________ (141) main idea is to make it easy __________ (142) defend. Where it must be built on more level ground, a large ditch is dug __________ (143) the castle built on the pile of dirt inside. __________ (144) ditch, called a moat, is kept full __________ (145) water. At the outer edge of __________ (146) moat is a strong fence, made by driving heavy posts into __________ (147) ground.

"In some ways the boss of the castle is __________ (148) gatekeeper," soldier carl says with a grin. "__________ (149) only way anyone can get into the castle is to cross the __________ (150) on a drawbridge. From his tower, __________ (151) gatekeeper operates the ropes or chains which raise and lower __________ (152) drawbridge. He will not let down the __________ (153) for strangers until he is sure they are __________ (154) of the lord.

"Once across the bridge, the visitor still has to get through __________ (155) gate or door of the castle. It can be raised to let __________ (156) visitors or lowered to block the way."

Walls and Battlements. __________ (157) outer wall of the castle is very thick and perhaps twenty __________ (158) high. Along the top of __________ (159) wall are battlements. We look through low places or openings.

"__________ (160) the castle is attacked," Carl says, "we can __________ (161) or boiling oil on __________ (162) attacking troops through these openings. I like the towers from which the bowmen shoot __________ (163) arrows."

An inner wall surrounds __________ (164) part of the castle where the family lives. Carl shows us __________ (165) great hall where meals are served. At one end is the kitchen.

__________ (166) soliders are housed in the tower of the castle, called __________ (167) donjon or keep. __________ (168) thick walls are fifty or sixty feet high. Below __________ (169) donjon is the prison where prisoners are kept.

Soldier Carl chuckles to himself __________ (170) he teases us. "You children might turn out to __________ (171) spies, so I won't show it to you. But we have __________ (172) secret gate called __________ (173) postern. It is at the rear of __________ (174) courtyard. Charleson will never be captured, but the family could escape through the postern __________ (175) they were in danger."

Castle Warfare. "Would anyone attack __________ (176) castle so strong as this?" someone asks.

Carl nods. "If __________ (177) lord decides he is powerful enough to take Sir Francis' lands, he might try to __________ (178) so. We do not have __________ (179) strong central government to stop him. No one ever knows what

__________ (180) Vikings will attempt, but they are more likely to __________ (181) in on the village."

Carl shows us a place where __________ (182) castle wall was once repaired. "__________ (183) lord with a battering ram once knocked __________ (184) hole in the wall before the castle was completed. He didn't have a catapult though. __________ (185) is a nasty machine that hurls stones over __________ (186) walls. I heard of one castle being taken with __________ (187) tower on wheels. In the night __________ (188) attacking noble filled in part of __________ (189) moat and rolled the tower up to the castle wall. __________ (190) soldiers swarmed up the tower and onto the walls."

* * * * * * *

If a castle was preparing for a siege by an approaching enemy, what are some of the things the serfs would bring inside the castle walls?

* * * * * * *

Food and Its Preparation. At noon we meet Sir Francis, __________ (191) lady, and their children in the great hall. We sit __________ (192) a table on __________ (193) low platform at one end of the hall. The other members of the __________ (194) household sit at tables on trestles down the sides of __________ (195) hall.

The food is simple. __________ (196) is soup, some wild fowl, turnips, dark bread, and milk. __________ (197)

dessert is a pudding sweetened with honey.

After the __________ (198) Lady Jeanne takes us to the kitchen. "We cook everything at __________ (199) fireplaces," she says. "The bread is baked in __________ (200) large brick ovens. Hot coals are placed in the ovens to __________ (201) them. When an oven is hot, the coals are removed. __________ (202) the bread is put in to bake."

__________ (203) big roast on a rod is slowly turning before __________ (204) fire. "You can see what our main course will be tonight," __________ (205) lady says. "The food you ate __________ (206) noon was cooked in iron or copper kettles hung over __________ (207) fire. We like to serve several kinds of meat, __________ (208) vegetables such as cabbage, beets, and turnips."

Women's Work. Lady Jeanne takes us __________ (209) a private garden surrounded __________ (210) high walls. "Here, during the day, we women like to walk about __________ (211) the flowers," she says. "But most of __________ (212) time we are busy with household tasks. There is much spinning, weaving, and sewing to __________ (213) done. Most of __________ (214) clothes worn by the household are made here."

THE KNIGHTS AND KNIGHTHOOD

A School for Knights. Lady Jeanne turns us over to Soldier Carl again.

"Now I can point out my side of castle life," he says. "War is the chief business in feudal times. Consequently, every castle is a training school for knights. Sir Francis does a thorough job of training soldiers.

"You boys are about __________ (215) right age to be pages," Carl continues. "__________ (216) a boy of noble blood is seven, he is sent __________ (217) some nobleman's castle. For seven years he serves __________ (218) noble and his lady as a page. We men teach __________ (219) pages to ride and hunt, but especially to ride.

"__________ (220) ladies of the castle do even more with the pages. __________ (221) lady looks after a certain boy. She tells him stories about brace knights. __________ (222) teaches him the rules __________ (223) knighthood; to be brave and polite __________ (224) and protect all women. Not all castles do it, but at Charleson __________ (225) page also learns to read and write. He learns to play __________ (226) lute and to dance. And Father Jerome sees to it that the pages go to __________ (227) most regularly. __________ (228) lady wants her pages to be true gentlemen, she does."

Duties of a Squire. While Carl is holding forth __________ (229) Charleson's pages, a young man comes up. __________ (230) bows mockingly to Carl and says, "Carl, to hear you, __________ (231) guests would think that the pages were important around __________ (232) castle. Now everyone knows that __________ (233) important people in the castle are __________ (234) squires. They---"

Carl cuffs the squire and says, "Be gone with you. The __________ (235) important squire is the one who becomes __________ (236) good soldier. As I was saying, when a page is fourteen, he becomes __________ (237) squire. Then he really begins __________ (238) learn things. He becomes the servant of a knight and goes everywhere with him. He __________ (239) expected to serve __________ (240) knight at all times. If he falls down on __________ (241) job, he is 'washed up' once and for all. __________ (242) if he has been a good page and serves __________ (243) knight well, he becomes a knight when he is twenty-one. __________ (244) is truly a wonderful ceremony and I wish you could see one.

Knighthood. As Carl describes __________ (245) long and solemn ceremony, we realize __________ (246) every step in it has __________ (247) special meaning. To show that he is beginning __________ (248) new, clean life, the squire bathes and gets into __________ (249) white tunic. Over this goes a red robe. It reminds the squire that he may have to shed __________ (250) when helping others. The top garment is __________ (251) black coat, a symbol that he might have to __________ (252) in defending others.

The squire stands or kneels __________ (253) night in prayer in the chapel, guarding __________ (254) precious weapons which have been laid on __________ (255) altar. In the morning he attends a religious service. __________ (256) sermon points out his duty to right wrongs, protect the weak, to honor women, and __________ (257) those in trouble. He receives __________ (258) sword from the priest.

The final ceremony is held in __________ (259) courtyard of the castle before guests and members of the household. Knights __________ (260) ladies buckle on his armor, spurs, and sword. He receives __________ (261) shield. Then he kneels for __________ (262) final hour. Touching him on __________ (263) neck or shoulder with his sword or fist, __________ (264) lord or another knight says, "In the name of God, I dub thee knight. __________ (265) brave and loyal."

Sham Battles. "The young knight soon has __________ (266) chance to show his skill __________ (267) arms," Carl says. "Sometimes after the knighting the lord gives a tournament. That is __________ (268) sham battle which is very popular with __________ (269) public. It is also very dangerous __________ (270) many knights are wounded in tournaments. Sometimes one is killed.

"__________ (271) two sides line up at either end of the tournament field. __________ (272) knight carries a lance. At a signal, __________ (273) charge across the field. The object is to strike your opponent's shield so hard that he will __________ (274) from his horse. The side wins that has the __________ (275) men on horseback at the end of three charges.

"__________ (276) great knight might challenge other knights to fight __________ (277) singly. The one who wins __________ (278) most honors in a tournament in often allowed to choose the tournament queen. __________ (279) queen is crowned and a feast is held. So ends __________ (280) big holiday."

__________ (281) we leave the castle, we go to see __________ (282) serfs' village. That experience will be described in the following chapter. Among other things, you will discover __________ (283) the serfs often lost __________ (284) teeth while they were still young.

Summing Up. During __________ (285) Dark Ages, few rulers were strong enough to protect __________ (286) people from invaders or civil wars. Many people turned to __________ (287) great landowners for protection. The system that developed was called the __________ (288) system.

Under the feudal plan the land was divided into thousands of __________ (289). The nobles took an oath to support the king. The __________ (290) also protected __________ (291) people on their manors. In return these people did the work on the manor.

In order to defend their manors, the nobles built castles. Each castle was a training school for knights. The knights became the soldiers of the nobles.

They were trained to protect others; to be brave and noble Christian warriors. When they were not fighting, they often took part in sham battles called tournaments.

APPENDIX E

PUPIL SCORES ON CLOZE TRAINING EXERCISES

PUPIL SCORES ON CLOZE TRAINING EXERCISES USING A SYNONYM SCORING SYSTEM AND GIVEN IN PERCENTAGE CORRECT

Subjects	Ch. 13	Ch. 14	Islam I	Islam II	Ch. 15	Ch. 16	Ch. 17
1	66	64	69	72	74	65	68
2	83	70	70	76	72	68	65
3	54	48	48	63	54	48	24
4	64	65	69	60	61	68	46
5	61	60	63	68	46	50	35
6	61	69	71	67	73	81	43
7	41	45	33	43	58	40	48
8	77	62	65	60	45	46	51
9	47	61	55	60	49	47	59
10	54	52	50	63	74	68	75
11	58	62	73	77	66	73	68
12	72	67	79	74	65	75	63
13	76	69	74	72	72	64	61
14	50	64	55	62	53	46	44
15	67	75	82	71	85	82	74
16	53	64	51	49	62	59	51
17	63	53	52	84	58	68	65
18	68	64	70	71	63	67	48
19	69	73	75	71	73	72	64
20	64	73	69	79	66	70	42
21	60	74	70	72	70	83	78

THE CLOZE PROCEDURE FOR IMPROVING SIXTH GRADE STUDENTS' READING COMPREHENSION AND UNDERSTANDING OF SOCIAL STUDIES MATERIALS

AN ABSTRACT
OF A MASTER'S EQUIVALENCY THESIS
SUBMITTED TO THE FACULTY
OF THE GRADUATE SCHOOL OF EDUCATION
OF
RUTGERS UNIVERSITY
THE STATE UNIVERSITY OF NEW JERSEY
BY
PATRICIA GRANT
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE
OF
DOCTOR OF EDUCATION

COMMITTEE CHAIRMAN: JOSEPH ZELNICK, Ed.D.

NEW BRUNSWICK, NEW JERSEY DECEMBER, 1976

ABSTRACT

The purpose of this study was to determine the effectiveness of using the cloze procedure for improving sixth grade students' reading comprehension and recall of social studies materials.

Problem

The problems that were basic to this study were the following: (1) to determine whether systematic training with the cloze procedure in content area reading passages would result in improved reading comprehension; and (2) to determine whether the use of the cloze procedure as an instructional device in the teaching of sixth grade social studies would result in improved recall of social studies material. A minor concern involved noting whether or not students were more enthusiastic about given material as a result of presentation of cloze exercises.

Procedures

The subjects (Ss) were 42 students who comprised the entire 6th grade population at a northern New Jersey elementary school. The 42 Ss were divided into a control group and an experimental group, each consisting of 21 Ss.

All Ss were pre- and posttested with the Gates-MacGinitie Reading Test, D, Forms 2 and 3 and cloze tests designed by the experimenter. Additionally, all Ss were given a social studies test covering a unit of study on Medieval Europe. The minor concern was evaluated through observation and interviewing.

Both the experimental and control groups were taught by the same teacher who prepared each group for each chapter with specific readiness activities. Then, each group was instructed to read the chapter of concern. For the follow-up activity the experimental group did experimenter-constructed cloze exercises, covering an entire chapter. The deletion pattern was a selective deletion pattern in which groups of ten words were counted off and then one word was selected for deletion. Usually, the word classes from which deletions were taken included noun determiners, nouns and verbs and prepositions and conjunctions. The control group's follow-up activity was answering questions at the end of the chapter and from the teacher's manual accompanying the social studies text.

After all reading in the unit was completed, both the experimental and control groups were posttested.

The study lasted a total of nine weeks in which seven chapters were covered. The time spent on all activities for both groups was equal. The total time spent on cloze instruction for the experimental group and answering questions at the end of the chapter for the control group was approximately ten hours.

Statistical analyses were made when the pretest-posttest means of the experimental and control groups were compared. A "*t*" test was done on all administered tests to determine if significant differences resulted from the treatment effects.

Findings

There were no significant differences between the experimental and control groups on the *Gates-MacGinitie Reading Test*. There was a significant difference on the experimenter-written cloze tests in favor of the control group. This was attributed to a fatigue factor on the part of the experimental group.

Regarding recall of the social studies unit, there was a significant difference in favor of the experimental group. This difference was significant at the .05 level.

Informal observations revealed that close reading of the text was required when students were doing cloze exercises. Furthermore, to do cloze exercises the students were consistently required to use grammar and logic context cues. However, one cautionary note was that too many cloze exercises caused the students to become bored.

Conclusion

From the findings of this study it was concluded that training with cloze exercises did enhance long term recall of social studies material.

COURSE WORK AT RUTGERS UNIVERSITY

Fall, 1973		Instructor
290:509	Emotional and Social Maladjustment	Dr. Bardon
Spring, 1974		
290:518	Psychology of Personality	Dr. Shackelton
Summer, 1974		
610:522	Materials for Young Adults	Dr. Simpson
290:513	Introduction to Early and Middle Childhood	Dr. Arnold
960:531	Statistical Methods in Education I	Dr. Penfield
Fall, 1974		
299:561	Foundations of Reading	Dr. Swalm
299:608	Seminar in Reading Theories and Models	Dr. Kling
290:540	Introduction to Learning	Dr. Gillooly
Spring, 1975		
299:564	Remedial Reading	Dr. Zelnick
299:565	Remedial Reading Laboratory	Dr. Fry
299:590	Psychology of Reading	Dr. Gillooly Dr. Cox
960:532	Statistical Methods in Education II	Dr. Penfield
Summer, 1975		
299:517	Laboratory in Teaching Reading, Secondary, College and Adult	Dr. Goldsmith
251:530	Linguistic Bases of Language Teaching	Dr. Barone

COURSE WORK (Continued)

Fall, 1975		Instructor
299:566	Seminar in Reading Research and Supervision	Dr. Fry
230:514	Administration of Staff Personnel	Dr. Johnston
310:501	History of Educational Thought	Dr. Chambliss
Spring, 1976		
299:610	Advanced Laboratory	Dr. Fry
299:599	Master's Thesis Research	Dr. Zelnick
290:515	Introduction to Principles of Measurement	Dr. Geyer
Summer, 1976		
610:524	Audio-Visual Materials, Methods and Services	Dr. Locatis
Fall, 1976		
611:589	Television Programming and Production for Library and Media	Dr. Locatis
310:500	Curriculum and Instruction	Dr. Kwasnasa

VITA

1. Personal Data

Patricia L. Grant
Married
Dependents - one daughter, age 8½
Address -
Route 1, Box 243 A
Belle Glades Lane
Belle Mead, New Jersey 08502
Phone - (201) 359-3280
Social Security No. 523-52-3670

2. Education

Graduated From:

East High School
Denver, Colorado 1959 Diploma

Colorado State University
Ft. Collins, Colorado
B.A. 1963
Major in English
Minor in Education

University of Northern Colorado
Greeley, Colorado
M.A. 1968
Major in English

3. Certification

Certified Teacher--Secondary Education:
This certification is valid for all NCATE approved schools. Additionally, I have certification in the state of New York, as well as those states with which New York has reciprocity.

Certified Teacher--Evelyn Wood Reading Dynamics

4. Experience

A. 9/75 -- present
TEACHING ASSISTANT - Reading Center, Graduate School of Education, 10 Seminary Place, New Brunswick, New Jersey 08903

My time on this teaching assistantship was divided between Drs. Fry and Zelnick. For Dr. Zelnick, I supervised a reading field experience for Livingston College as well as doing occasional lectures. For Dr. Fry, my duties included assisting in teaching the Reading Foundations class, handling paper work and phone calls relating to the Rutgers Saturday morning reading clinic, and acting as materials librarian for the Rutgers Reading Center.

B. 12/74 - 6/75
GRADUATE ASSISTANT - New Jersey Right To Read, State Department of Education, Trenton, New Jersey

I researched and wrote about various subjects related to the teaching of reading. The various reports which I wrote have often been used for handouts and/or they have gone into the Right To Read Director's Manual.

C. 2/75 - 11/75

TEACHER - Princeton Adult School, Princeton Night School, Princeton, New Jersey

I taught speed reading at the Princeton Community Nigh School to interested adults.

D. 1/73 - 5/73

INSTRUCTOR (Evening Class) - Onandaga Community College, Syracuse, New York

I taught speed reading under the auspices of the Adult Continuing Education Center.

E. 12/72 - 4/73

ASSISTANT OF GRADUATE STUDIES - State University of New York, Cortland, New York

I assisted the Director of the Learning Skills Center and taught speed reading.

F. 8/70 - 8/72

During this period of time I was not employed because I was in the Philippines with my husband while he pursued his graduate studies.

G. 9/68 - 1/70

TUTOR-GRADER - Ithaca College, Ithaca, New York

I gave lectures, made assignments, and graded papers.

H. 9/68 - 6/70

TEACHER - Evelyn Wood Reading Dynamics, New York, New York

I taught rapid reading to people of all ages.

I. 9/64 - 5/67

TEACHER - Sedgwick Grade School, Sedgwick, Colorado

I taught Language Arts on the 5th, 6th, 7th, 8th, and 12th grade levels.

J. 2/63 - 6/63

TEACHER - Crook Grade School, Crook, Colorado

I taught Language Arts on the 6th, 7th, and 8th grade levels.

5.	Present Activity	I am presently completing my doctoral program in reading at Rutgers University.
6.	Professional Organizations	National Council of Teachers of English, 1964 - present Member and officer for Local Education Association, 1965 - 1967 Member and officer for Local Teachers' Credit Union, 1965 - 1967
	Current Professional Association	International Reading Association (IRA)
7.	Honors	Graduated from college "With High Distinction" Member of Phi Kappa Phi (National Honor Society for state supported schools) Member of Sigma Tau Delta (National Honor Society for English majors)

Received the Climax Molybdenum Fellowship for summer study while teaching

8. Non-Teaching Professional Activities

A. Rutgers Reading Conference, Fall 1975
Workshops illustrating the classroom use of the cloze procedure.

B. State Department of Education, New Jersey
Right To Read, 1975-76
Numerous workshops done throughout the state of New Jersey.

C. State Department of Education, New Jersey
Right To Read, 1975-76
Consulting project in which data relating to numerous Right To Read projects were analyzed.

D. City Schools
Consultancy with New Brunswick, New Jersey Public Schools, 1976. For this project, the objectives for the public schools were compared against the standardized achievement tests used in the schools.

9. Publications

Grant, Patricia, "Cloze Techniques," Reading Management Systems, Rutgers University, Fall, 1975, pp. 65-75.

Grant, Patricia, "Cloze," Quantifying Reading in the Classroom, New Jersey Association for Independent Schools, April 23, 1976, pp. 25-38

10. Interests — Piano, Square Dancing, Reading, and Snorkeling

11. References who may be contacted — Mr. Robert Cosgrove

Director of Composition
English Department
Ithaca College
Ithaca, New York 14850
(607) 274-3011

Mrs. Virginia Hardesty

Housewife and friend
2 Knoll Tree Road
Ithaca, New York 14850
(607) 273-6063

Dr. Edward Fry

Director of the Reading Center
Graduate School of Education
10 Seminary Place
New Brunswick, New Jersey 08903

Dr. Joseph Zelnick

Reading Center
Graduate School of Education
10 Seminary Place
New Brunswick, New Jersey 08903

Dr. James Swalm

Director, New Jersey Right
To Read
State Department of Education
225 West State Street
Trenton, New Jersey 08600